

952	23000	Nongrass Forage/Fodder/Straw/Hay	--
953	???	PLUS Parent Terms	
954	04000	Pome Fruits	--
955	14000	Root and Tuber Vegetables	--
956	01000	Small Fruits	--
957	26000	Specialized Field Crops	--

ALFALFA, BEANS, CLOVER, COTTON, LESPEDEZA, PEANUTS, PEAS (INCLUDING VINES), SUGAR BEETS (INCL. TOPS), VETCH, SMALL SEEDED LEGUMES, TREFOIL, SAINFOIN, SOYBEANS, CROWN VETCH, CARROT TOPS, HAIRY VETCH, CAROB, CANOLA\RAPE, BEANS, BROAD, PEAS, AUSTRIAN WINTER, KUDZU, ALFALFA CLOVER MIXTURE, BEETS, LUPINE, BUCKWHEAT, LENTILS, COWPEAS, TYFON, NONGRASS ANIMAL FEEDS, MARIGOLD			
	<i>see constituent crops</i>	---	
APPLE, CRABAPPLE, PEAR, QUINCE, MAYHAW (HAWTHORN)			
BEETS (ROOT), ARTICHOKE, CHINESE, CARROT (INCLUDING TOPS), CELERIAC, CHIVE, TARO, GARLIC, HORSERADISH, ARTICHOKE, JERUSALEM, LEEK, ONION, PARSNIP, POTATO, WHITE/IRISH (OR UNSPECIFIED), RADISH, RUTABAGA, SALSIFY, SHALLOT, SWEET POTATO, TURNIP (ROOT), CHICORY, YAM, BURDOCK, RADISH, CHINESE, YAM BEAN, LOTUS ROOT, MANIOC (CASSAVA), ARROWROOT, YAUTIA, BEANS, GOA (WINGED BEAN), PARSLEY, TURNIP-ROOTED, WATER CHESTNUT, LEREN, CHUFA (GROUND ALMOND), ARRACACIA (PERSIAN CARROT), SALSIFY, SPANISH, SKIRRET, CHAYOTE, INDIAN CUCUMBER ROOT, BULB VEGETABLES, Root vegetables, Root vegetables (except sugar beet), Tuberous and corm vegetables, Tuberous and corm vegetables (except potato), LEAVES OF ROOT AND TUBER VEGETABLES			
CANEBERRIES, BLACKBERRY, BOYSENBERRY, DEWBERRY, LOGANBERRY, RASPBERRY (BLACK, RED), YOUNGBERRY, LOW GROWING BERRIES, BLUEBERRY, CRANBERRY, CURRANT, ELDERBERRY, GOOSEBERRY, GRAPES, HUCKLEBERRY, STRAWBERRY, OLALLIE BERRIES, BUSHBERRIES, SERVICEBERRY, MULBERRY			
BUCKWHEAT, TOBACCO, TOBACCO/CIGAR/CIGAR WRAPPING, MARIJUANA (HEMP), GUAR, PLANTAGO OVATA (MEDICINAL), GINSENG, GUAYULE (RUBBER), WATER CHESTNUT, CHINESE, TI, CORN, POP, CORN, SWEET, OKRA, SUNFLOWER, SESAME, PINE NUTS, PYRETHRUM (INSECTICIDAL USE) (SPECIALIZED FIELD CROP), MEADOWFOAM			

[illegible]







[illegible]



958	05000	Stone Fruits	--
959	06000	Subtropical/ Tropical Fruit	--
960	25000	Sugar Crops	--
961	03000	Tree Nuts	--

APRICOT, CHERRY, NECTARINE, PEACH, PLUM, PRUNE			
AVOCADO, BANANA, COCONUT, DATE, FIG, GUAVA, MANGO, LOQUAT, OLIVE, PAPAYA, PAWPAW, PERSIMMON, PINEAPPLE, PASSION FRUIT (GRANADILLA), POMEGRANATE, PLANTAIN, LITCHI NUT, KIWI FRUIT, CAPRIFIG, ACEROLA (WEST INDIES CHERRY), GINKGO NUT, MAMEY (MAMMEE APPLE), SURINAM CHERRY (PITANGA), SOURSOP, SUGAR APPLE (CUSTARD APPLE), BREADFRUIT (BREADNUT), PRICKLYPEAR, CARAMBOLA (JALEA), CHERIMOYA, LONGAN, MARMALADEBOX (GENIPAPO), LIME, SPANISH, AKEE, EGGFRUIT TREE (CANISTEL), MOMBIN, FEIJOA (PINEAPPLE GUAVA), SUGAR PALM, TOMATO, TREE, BANANA, DWARF, SATINLEAF CAJITILLO, JACKFRUIT, MANGOSTEEN, NATAL PLUM, SAPOTA, WHITE, STAR APPLE, WAMPI, BARBADOS CHERRY, BRAZIL CHERRY, OTAHEITE APPLE, PLUM, JAPANESE, ATEMOYA, SAPODILLA, KITEMBILLA (CEYLON GOOSEBERRY), JABOTICABA, DURIAN, RAMBUTAN, BIRIBA, CANISTEL, CUSTARD APPLE, ILAMA, PULASAN, JAVA APPLE, SAPOTE, BLACK			
HONEYCOMB, SUGAR BEET, SUGARCANE, SUGAR MAPLE, SORGHUM			
ALMOND, BRAZIL NUT, CASHEW, CHESTNUT, FILBERT (HAZELNUT), HICKORY NUT, MACADAMIA NUT (BUSHNUT), PECAN, WALNUT (ENGLISH/BLACK), BUTTERNUT, PISTACHIO, BEECH NUT, CHINQUAPIN			













Non-agricultural crosswalk has yet to be developed. Below is a description of the studies readily available to the a

Source	Study	Years Surveyed
Kline	Stored Grain Insect Control: United States Market Analysis and Opportunities	2017, 2015, 2011
	Biopesticides: An Overview of Natural and Microbial Pesticides in the United States	2014
	Consumer Markets for Pesticides and Fertilizers: U.S. Market Analysis and Opportunities	2016, 2012
	Fly Control in Production Animal Health: U.S. Market Analysis and Opportunities	2015
	Professional Pest Management Markets for Pesticides: United States Market Analysis and Opportunities	2016, 2012
	Industrial Vegetation Management of Pesticides and Fertilizers: United States Market Analysis and Opportunities	2016, 2011
	Mosquito Control: United States Market Analysis and Opportunities	2015, 2012, 2010
	Pest Control in Food-Handling Establishments: U.S. Market Analysis and Opportunities	2014
	Pest Control in Production Animal Health: U.S. Market Analysis and Opportunities	2017
	Professional Turf and Ornamental Markets for Pesticides and Fertilizers: U.S. Market Analysis and Opportunities	2013

agency for non-agricultural usage. Additional government sources may be available

Segment Name
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On-farm, off-farm, export
---------------------------

Pest control (pesticide products applied by licensed applicators to residential and commercial structures to control insects and small animal pests)
--

Mosquito control (carried out by Mosquito Abatement agencies operated by local municipalities)
--

Turf (professionally managed home lawns to athletic fields, sod farms, golf courses, parks, cemeteries, roadsides and landscaped areas around offices, business parks and industrial areas)
---

Forestry (federal government, state and local agents, commercial
--

Pesticides and fertilizers used on lawns, gardens, and houseplants and in households by consumers. Including pet insecticides and insect repellants.
--

cattle, hogs, poultry
-----------------------

Applications made by professional pest care operators. Covers Residential, Commercial, Industrial Areas (Indoor & Outdoor). Commercial and industrial include food-handling and non-food handling areas. (termites, ants, fleas, cockroaches, bed bugs, rodents, and a broad category of all other insects).
--

Invasive weeds, forestry, rangeland and pasture, railroads, roadways, electric utilities and pipelines, aquatic areas,
--

both adulticides and larvicides, sold either directly or through conventional distribution channels to governmental professional mosquito control end users in the contiguous United States. Products specifically formulated and promoted for sale to and applied by pest control operators (PCOs) or consumer end users are excluded from this report.
--

Restaurants, Commercial and Institutional Kitchens, Food Warehouses, Food Processors.
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focusing on animal health, including poultry, pork, beef, egg, and dairy production.
--

Golf Courses, Lawn Care Operators, Horticultural Nurseries and Greenhouses, Institutional Turf Facilities, Landscape Contractors, Turf Farms.
---

in certain situations upon request.

Notes	Insecticides	Herbicides	Aquatic Herbicides	Fungicides
lbs AI	✓			
sales	✓			
	✓			
	✓	✓		✓
	✓			
	✓	✓		✓
sales and Lbs AI	✓	✓		✓
sales	✓			
Lbs AI, Sales by region	✓			
sales, Lbs AI, acres treated		✓	✓	✓
sales, Lbs AI, acres treated	✓			
Lbs AI	✓			
sales	✓			
lbs by region available by AI. Acres treated available by product	✓	✓	✓	✓

Growth Regulator	Nematicide	Rodenticide	Antimicrobial
		✓	
		✓	
	✓		✓
		✓	
		✓	
		✓	
✓			

<p><b>NASS (**NASS surveys many non-crop sites. These studies, however, are older than typically used in our assessments. NASS study names provided as reference.)</b></p>	<p>***HORTICULTURE 2006, 2009</p> <p>***LIVESTOCK (sheep: animals, facilities &amp; equipment) 2010</p>
<p><b>CADPR (****Non-Crop areas in CA are never nationally represented. Data provided for reference and for CA specific assessments.)</b></p>	<p>Pesticide Use Reporting (PUR) 2012-2016</p>

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Nursery (Transplants for Commercial Vegetable & Strawberry Production, Nursery Propagation or Lining-out Stock, Broadleaf Evergreens, Coniferous Evergreens, Deciduous Shade Trees, Deciduous Flowering Trees, Deciduous Shrubs, Fruit and Nut Plants, Christmas Trees, Palms, Ornamental Grasses, Other Woody Ornamentals and Vines); Floriculture (Cut Flowers, Flowering Plants, Bedding Plants, Foliage Plants, Floriculture Propagation Material, Cut Cultivate Greens, Herbaceous Perennials, Non-production Areas)

sheep: animals, facilities & equipment

---

N-OUTDR TRANSPLANTS; N-OUTDR PLANTS IN CONTAINERS; N-GRNHS TRANSPLANTS; N-GRNHS PLANTS IN CONTAINERS; NURSERY SOIL; N-GRNHS FLOWER; N-OUTDR FLOWER; FOREST, TIMBERLAND; CHRISTMAS TREE; TURF/SOD; BERMUDAGRASS; SUDANGRASS; GOLF COURSE TURF

---



Lbs applied, PCT, application rate	✓			
Lbs applied, PCT, application rate	✓			
lbs ai, acres treated	✓	✓	✓	✓

✓	✓	✓	✓

**Cell:** A1

**Comment:** [Threaded comment]

Your version of Excel allows you to read this threaded comment; however, any edits to it will get removed if the file is opened in a newer version of Excel. Learn more: <https://go.microsoft.com/fwlink/?linkid=870924>

Comment:

feels like we need somethign here. I took a stab at a blurb. Edit away!

State/Crop/Pesticide data  
availability described in  
tabs to the right \

**Kynetec Survey Coverage by Crop/State/Pestici**  
**✓ = Surveyed**

Crop	State	Herbicide	Insecticide
<b>Alfalfa</b>	<b>National (# = states surveyed)</b>	<b>29</b>	<b>29</b>
Alfalfa	ARIZONA	✓	✓
Alfalfa	CALIFORNIA	✓	✓
Alfalfa	COLORADO	✓	✓
Alfalfa	IDAHO	✓	✓
Alfalfa	ILLINOIS	✓	✓
Alfalfa	INDIANA	✓	✓
Alfalfa	IOWA	✓	✓
Alfalfa	KANSAS	✓	✓
Alfalfa	KENTUCKY	✓	✓
Alfalfa	MICHIGAN	✓	✓
Alfalfa	MINNESOTA	✓	✓
Alfalfa	MISSOURI	✓	✓
Alfalfa	MONTANA	✓	✓
Alfalfa	NEBRASKA	✓	✓
Alfalfa	NEVADA	✓	✓
Alfalfa	NEW MEXICO	✓	✓
Alfalfa	NEW YORK	✓	✓
Alfalfa	NORTH DAKOTA	✓	✓
Alfalfa	OHIO	✓	✓
Alfalfa	OKLAHOMA	✓	✓
Alfalfa	OREGON	✓	✓
Alfalfa	PENNSYLVANIA	✓	✓
Alfalfa	SOUTH DAKOTA	✓	✓
Alfalfa	TEXAS	✓	✓
Alfalfa	UTAH	✓	✓
Alfalfa	VIRGINIA	✓	✓
Alfalfa	WASHINGTON	✓	✓
Alfalfa	WISCONSIN	✓	✓
Alfalfa	WYOMING	✓	✓
<b>Almonds</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Almonds	CALIFORNIA	✓	✓
<b>Apples</b>	<b>National (# = states surveyed)</b>	<b>10</b>	<b>10</b>
Apples	CALIFORNIA	✓	✓
Apples	MICHIGAN	✓	✓
Apples	NEW YORK	✓	✓
Apples	NORTH CAROLINA	✓	✓
Apples	OHIO	✓	✓

### ide Type (2012-2016)

[illegible]

Apples	OREGON	✓	✓
Apples	PENNSYLVANIA	✓	✓
Apples	VIRGINIA	✓	✓
Apples	WASHINGTON	✓	✓
Apples	WEST VIRGINIA	✓	✓
<b>Apricots</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Apricots	CALIFORNIA	✓	✓
<b>Artichoke</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Artichoke	CALIFORNIA	✓	✓
<b>Asparagus</b>	<b>National (# = states surveyed)</b>	<b>3</b>	<b>3</b>
Asparagus	CALIFORNIA	✓	✓
Asparagus	MICHIGAN	✓	✓
Asparagus	WASHINGTON	✓	✓
<b>Barley</b>	<b>National (# = states surveyed)</b>	<b>13</b>	
Barley	CALIFORNIA	✓	
Barley	COLORADO	✓	
Barley	IDAHO	✓	
Barley	MINNESOTA	✓	
Barley	MONTANA	✓	
Barley	NORTH DAKOTA	✓	
Barley	OREGON	✓	
Barley	PENNSYLVANIA	✓	
Barley	SOUTH DAKOTA	✓	
Barley	UTAH	✓	
Barley	VIRGINIA	✓	
Barley	WASHINGTON	✓	
Barley	WYOMING	✓	
<b>Beans (Snap, Bush, Pole, Strin</b>	<b>National (# = states surveyed)</b>	<b>13</b>	<b>13</b>
Beans (Snap, Bush, Pole, Strin	CALIFORNIA	✓	✓
Beans (Snap, Bush, Pole, Strin	FLORIDA	✓	✓
Beans (Snap, Bush, Pole, Strin	GEORGIA	✓	✓
Beans (Snap, Bush, Pole, Strin	ILLINOIS	✓	✓
Beans (Snap, Bush, Pole, Strin	INDIANA	✓	✓
Beans (Snap, Bush, Pole, Strin	MICHIGAN	✓	✓
Beans (Snap, Bush, Pole, Strin	NEW YORK	✓	✓
Beans (Snap, Bush, Pole, Strin	NORTH CAROLINA	✓	✓
Beans (Snap, Bush, Pole, Strin	OREGON	✓	✓
Beans (Snap, Bush, Pole, Strin	PENNSYLVANIA	✓	✓
Beans (Snap, Bush, Pole, Strin	TENNESSEE	✓	✓
Beans (Snap, Bush, Pole, Strin	TEXAS	✓	✓
Beans (Snap, Bush, Pole, Strin	WISCONSIN	✓	✓
<b>Broccoli</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Broccoli	CALIFORNIA	✓	✓
<b>Cabbage</b>	<b>National (# = states surveyed)</b>	<b>10</b>	<b>10</b>
Cabbage	ARIZONA	✓	✓
Cabbage	CALIFORNIA	✓	✓

✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
1		1	1
✓		✓	✓
1		1	1
✓		✓	✓
3		2	3
✓		✓	✓
✓		✓	✓
✓			✓
			13
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
13		3	13
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓		✓	✓
✓			✓
✓			✓
✓			✓
✓			✓
1		1	ü
✓		✓	✓
9		4	10
✓			✓
✓		✓	✓



Cabbage	COLORADO	✓	✓
Cabbage	FLORIDA	✓	✓
Cabbage	GEORGIA	✓	✓
Cabbage	MICHIGAN	✓	✓
Cabbage	NEW YORK	✓	✓
Cabbage	NORTH CAROLINA	✓	✓
Cabbage	TEXAS	✓	✓
Cabbage	WISCONSIN	✓	✓
<b>Caneberries</b>	<b>National (# = states surveyed)</b>	<b>3</b>	<b>3</b>
Caneberries	CALIFORNIA	✓	✓
Caneberries	OREGON	✓	✓
Caneberries	WASHINGTON	✓	✓
<b>Canola (oilseed rape)</b>	<b>National (# = states surveyed)</b>	<b>4</b>	<b>4</b>
Canola (oilseed rape)	MINNESOTA	✓	✓
Canola (oilseed rape)	MONTANA	✓	✓
Canola (oilseed rape)	NORTH DAKOTA	✓	✓
Canola (oilseed rape)	OKLAHOMA	✓	✓
<b>Cantaloupes</b>	<b>National (# = states surveyed)</b>	<b>8</b>	<b>8</b>
Cantaloupes	ARIZONA	✓	✓
Cantaloupes	CALIFORNIA	✓	✓
Cantaloupes	FLORIDA	✓	✓
Cantaloupes	GEORGIA	✓	✓
Cantaloupes	INDIANA	✓	✓
Cantaloupes	NORTH CAROLINA	✓	✓
Cantaloupes	SOUTH CAROLINA	✓	✓
Cantaloupes	TEXAS	✓	✓
<b>Carrots</b>	<b>National (# = states surveyed)</b>	<b>5</b>	<b>5</b>
Carrots	CALIFORNIA	✓	✓
Carrots	MICHIGAN	✓	✓
Carrots	TEXAS	✓	✓
Carrots	WASHINGTON	✓	✓
Carrots	WISCONSIN	✓	✓
<b>Cauliflower</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Cauliflower	ARIZONA	✓	✓
Cauliflower	CALIFORNIA	✓	✓
<b>Celery</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Celery	CALIFORNIA	✓	✓
Celery	MICHIGAN	✓	✓
<b>Cherries</b>	<b>National (# = states surveyed)</b>	<b>4</b>	<b>4</b>
Cherries	CALIFORNIA	✓	✓
Cherries	MICHIGAN	✓	✓
Cherries	OREGON	✓	✓
Cherries	WASHINGTON	✓	✓
<b>Corn</b>	<b>National (# = states surveyed)</b>	<b>34</b>	<b>34</b>
Corn	ALABAMA	✓	✓
Corn	ARKANSAS	✓	✓

			✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓		✓	✓
✓			✓
✓			✓
3		2	3
✓		✓	✓
✓			✓
✓		✓	✓
			4
			✓
			✓
			✓
			✓
8		8	8
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
5		5	5
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
2		1	2
✓			✓
✓		✓	✓
2		2	2
✓		✓	✓
✓		✓	✓
4	4	4	4
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
33		34	34
✓		✓	✓
✓		✓	✓

Corn	CALIFORNIA	✓	✓
Corn	COLORADO	✓	✓
Corn	DELAWARE	✓	✓
Corn	GEORGIA	✓	✓
Corn	IDAHO	✓	✓
Corn	ILLINOIS	✓	✓
Corn	INDIANA	✓	✓
Corn	IOWA	✓	✓
Corn	KANSAS	✓	✓
Corn	KENTUCKY	✓	✓
Corn	LOUISIANA	✓	✓
Corn	MARYLAND	✓	✓
Corn	MICHIGAN	✓	✓
Corn	MINNESOTA	✓	✓
Corn	MISSISSIPPI	✓	✓
Corn	MISSOURI	✓	✓
Corn	NEBRASKA	✓	✓
Corn	NEW MEXICO	✓	✓
Corn	NEW YORK	✓	✓
Corn	NORTH CAROLINA	✓	✓
Corn	NORTH DAKOTA	✓	✓
Corn	OHIO	✓	✓
Corn	OKLAHOMA	✓	✓
Corn	PENNSYLVANIA	✓	✓
Corn	SOUTH CAROLINA	✓	✓
Corn	SOUTH DAKOTA	✓	✓
Corn	TENNESSEE	✓	✓
Corn	TEXAS	✓	✓
Corn	VIRGINIA	✓	✓
Corn	WASHINGTON	✓	✓
Corn	WISCONSIN	✓	✓
Corn	WYOMING	✓	✓
<b>Cotton</b>	<b>National (# = states surveyed)</b>	<b>15</b>	<b>15</b>
Cotton	ALABAMA	✓	✓
Cotton	ARIZONA	✓	✓
Cotton	ARKANSAS	✓	✓
Cotton	CALIFORNIA	✓	✓
Cotton	FLORIDA	✓	✓
Cotton	GEORGIA	✓	✓
Cotton	KANSAS	✓	✓
Cotton	LOUISIANA	✓	✓
Cotton	MISSISSIPPI	✓	✓
Cotton	MISSOURI	✓	✓
Cotton	NORTH CAROLINA	✓	✓
Cotton	OKLAHOMA	✓	✓
Cotton	SOUTH CAROLINA	✓	✓



Cotton	TENNESSEE	✓	✓
Cotton	TEXAS	✓	✓
<b>Cucumbers</b>	<b>National (# = states surveyed)</b>	<b>13</b>	<b>13</b>
Cucumbers	CALIFORNIA	✓	✓
Cucumbers	DELAWARE	✓	✓
Cucumbers	FLORIDA	✓	✓
Cucumbers	GEORGIA	✓	✓
Cucumbers	MARYLAND	✓	✓
Cucumbers	MICHIGAN	✓	✓
Cucumbers	MISSOURI	✓	✓
Cucumbers	NEW JERSEY	✓	✓
Cucumbers	NORTH CAROLINA	✓	✓
Cucumbers	SOUTH CAROLINA	✓	✓
Cucumbers	TEXAS	✓	✓
Cucumbers	WASHINGTON	✓	✓
Cucumbers	WISCONSIN	✓	✓
<b>Dry Beans/Peas</b>	<b>National (# = states surveyed)</b>	<b>12</b>	<b>12</b>
Dry Beans/Peas	CALIFORNIA	✓	✓
Dry Beans/Peas	COLORADO	✓	✓
Dry Beans/Peas	IDAHO	✓	✓
Dry Beans/Peas	MICHIGAN	✓	✓
Dry Beans/Peas	MINNESOTA	✓	✓
Dry Beans/Peas	MONTANA	✓	✓
Dry Beans/Peas	NEBRASKA	✓	✓
Dry Beans/Peas	NEW YORK	✓	✓
Dry Beans/Peas	NORTH DAKOTA	✓	✓
Dry Beans/Peas	TEXAS	✓	✓
Dry Beans/Peas	WASHINGTON	✓	✓
Dry Beans/Peas	WYOMING	✓	✓
<b>Fallow</b>	<b>National (# = states surveyed)</b>	<b>16</b>	
Fallow	CALIFORNIA	✓	
Fallow	COLORADO	✓	
Fallow	IDAHO	✓	
Fallow	KANSAS	✓	
Fallow	LOUISIANA	✓	
Fallow	MINNESOTA	✓	
Fallow	MONTANA	✓	
Fallow	NEBRASKA	✓	
Fallow	NORTH DAKOTA	✓	
Fallow	OKLAHOMA	✓	
Fallow	OREGON	✓	
Fallow	SOUTH DAKOTA	✓	
Fallow	TEXAS	✓	
Fallow	UTAH	✓	
Fallow	WASHINGTON	✓	
Fallow	WYOMING	✓	

✓	✓	✓	✓
✓	✓	✓	✓
13		9	13
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓		✓	✓
✓			✓
✓			✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓		✓	✓
12			12
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
			16
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓
			✓

<b>Garlic</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Garlic	CALIFORNIA	✓	✓
<b>Grapefruit</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Grapefruit	FLORIDA	✓	✓
Grapefruit	TEXAS	✓	✓
<b>Grapes, Raisin</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Grapes, Raisin	CALIFORNIA	✓	✓
<b>Grapes, Table</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Grapes, Table	CALIFORNIA	✓	✓
Grapes, Table	NEW YORK	✓	✓
<b>Grapes, Wine</b>	<b>National (# = states surveyed)</b>	<b>3</b>	<b>3</b>
Grapes, Wine	CALIFORNIA	✓	✓
Grapes, Wine	NEW YORK	✓	✓
Grapes, Wine	WASHINGTON	✓	✓
<b>Hazelnuts</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Hazelnuts	OREGON	✓	✓
<b>Lemons</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Lemons	ARIZONA	✓	✓
Lemons	CALIFORNIA	✓	✓
<b>Lettuce</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Lettuce	ARIZONA	✓	✓
Lettuce	CALIFORNIA	✓	✓
<b>Lima Beans</b>	<b>National (# = states surveyed)</b>	<b>7</b>	<b>8</b>
Lima Beans	CALIFORNIA	✓	✓
Lima Beans	DELAWARE	✓	✓
Lima Beans	GEORGIA	✓	✓
Lima Beans	ILLINOIS	✓	✓
Lima Beans	MARYLAND		✓
Lima Beans	SOUTH CAROLINA	✓	✓
Lima Beans	WASHINGTON	✓	✓
Lima Beans	WISCONSIN	✓	✓
<b>Onions</b>	<b>National (# = states surveyed)</b>	<b>8</b>	<b>8</b>
Onions	CALIFORNIA	✓	✓
Onions	COLORADO	✓	✓
Onions	GEORGIA	✓	✓
Onions	IDAHO	✓	✓
Onions	NEW YORK	✓	✓
Onions	OREGON	✓	✓
Onions	TEXAS	✓	✓
Onions	WASHINGTON	✓	✓
<b>Oranges</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Oranges	CALIFORNIA	✓	✓
Oranges	FLORIDA	✓	✓
<b>Pastureland</b>	<b>National (# = states surveyed)</b>	<b>37</b>	
Pastureland	ALABAMA	✓	
Pastureland	ARKANSAS	✓	

1		1	1
✓		✓	✓
2		1	2
✓		✓	✓
✓			✓
1	1	1	1
✓	✓	✓	✓
2	1	1	2
✓	✓	✓	✓
✓			✓
3	3	1	3
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
1			1
✓			✓
2		1	2
✓			✓
✓		✓	✓
2		1	2
✓			✓
✓		✓	✓
7		1	8
✓			✓
✓			✓
✓		✓	✓
✓			✓
			✓
✓			✓
✓			✓
✓			✓
8		7	8
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓		✓	✓
2		2	2
✓		✓	✓
✓		✓	✓
			37
			✓
			✓



Pastureland	CALIFORNIA	✓	
Pastureland	COLORADO	✓	
Pastureland	FLORIDA	✓	
Pastureland	GEORGIA	✓	
Pastureland	IDAHO	✓	
Pastureland	ILLINOIS	✓	
Pastureland	INDIANA	✓	
Pastureland	IOWA	✓	
Pastureland	KANSAS	✓	
Pastureland	KENTUCKY	✓	
Pastureland	LOUISIANA	✓	
Pastureland	MARYLAND	✓	
Pastureland	MICHIGAN	✓	
Pastureland	MINNESOTA	✓	
Pastureland	MISSISSIPPI	✓	
Pastureland	MISSOURI	✓	
Pastureland	MONTANA	✓	
Pastureland	NEBRASKA	✓	
Pastureland	NEW YORK	✓	
Pastureland	NORTH CAROLINA	✓	
Pastureland	NORTH DAKOTA	✓	
Pastureland	OHIO	✓	
Pastureland	OKLAHOMA	✓	
Pastureland	OREGON	✓	
Pastureland	PENNSYLVANIA	✓	
Pastureland	SOUTH CAROLINA	✓	
Pastureland	SOUTH DAKOTA	✓	
Pastureland	TENNESSEE	✓	
Pastureland	TEXAS	✓	
Pastureland	UTAH	✓	
Pastureland	VIRGINIA	✓	
Pastureland	WASHINGTON	✓	
Pastureland	WEST VIRGINIA	✓	
Pastureland	WISCONSIN	✓	
Pastureland	WYOMING	✓	
<b>Peaches</b>	<b>National (# = states surveyed)</b>	<b>12</b>	<b>12</b>
Peaches	ALABAMA	✓	✓
Peaches	CALIFORNIA	✓	✓
Peaches	COLORADO	✓	✓
Peaches	GEORGIA	✓	✓
Peaches	ILLINOIS	✓	✓
Peaches	MICHIGAN	✓	✓
Peaches	NEW JERSEY	✓	✓
Peaches	NEW YORK	✓	✓
Peaches	PENNSYLVANIA	✓	✓
Peaches	SOUTH CAROLINA	✓	✓



Peaches	TEXAS	✓	✓
Peaches	WASHINGTON	✓	✓
<b>Peanuts</b>	<b>National (# = states surveyed)</b>	<b>8</b>	<b>8</b>
Peanuts	ALABAMA	✓	✓
Peanuts	FLORIDA	✓	✓
Peanuts	GEORGIA	✓	✓
Peanuts	NORTH CAROLINA	✓	✓
Peanuts	OKLAHOMA	✓	✓
Peanuts	SOUTH CAROLINA	✓	✓
Peanuts	TEXAS	✓	✓
Peanuts	VIRGINIA	✓	✓
<b>Pears</b>	<b>National (# = states surveyed)</b>	<b>3</b>	<b>3</b>
Pears	CALIFORNIA	✓	✓
Pears	OREGON	✓	✓
Pears	WASHINGTON	✓	✓
<b>Peas (Fresh/Green/Sweet)</b>	<b>National (# = states surveyed)</b>	<b>5</b>	<b>4</b>
Peas (Fresh/Green/Sweet)	MINNESOTA	✓	✓
Peas (Fresh/Green/Sweet)	NEW YORK	✓	
Peas (Fresh/Green/Sweet)	OREGON	✓	✓
Peas (Fresh/Green/Sweet)	WASHINGTON	✓	✓
Peas (Fresh/Green/Sweet)	WISCONSIN	✓	✓
<b>Pecans</b>	<b>National (# = states surveyed)</b>	<b>7</b>	<b>7</b>
Pecans	ALABAMA	✓	✓
Pecans	ARIZONA	✓	✓
Pecans	GEORGIA	✓	✓
Pecans	LOUISIANA	✓	✓
Pecans	NEW MEXICO	✓	✓
Pecans	OKLAHOMA	✓	✓
Pecans	TEXAS	✓	✓
<b>Peppers</b>	<b>National (# = states surveyed)</b>	<b>9</b>	<b>9</b>
Peppers	ARIZONA	✓	✓
Peppers	CALIFORNIA	✓	✓
Peppers	FLORIDA	✓	✓
Peppers	GEORGIA	✓	✓
Peppers	NEW JERSEY	✓	✓
Peppers	NEW MEXICO	✓	✓
Peppers	NORTH CAROLINA	✓	✓
Peppers	OHIO	✓	✓
Peppers	TEXAS	✓	✓
<b>Pistachios</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Pistachios	CALIFORNIA	✓	✓
<b>Plums/Prunes</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Plums/Prunes	CALIFORNIA	✓	✓
<b>Potatoes</b>	<b>National (# = states surveyed)</b>	<b>17</b>	<b>17</b>
Potatoes	CALIFORNIA	✓	✓
Potatoes	COLORADO	✓	✓

✓			✓
✓			✓
8		8	8
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
3	3	1	3
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
4			5
✓			✓
			✓
✓			✓
✓			✓
✓			✓
7			7
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
9		6	9
✓			✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
1			1
✓			✓
1		1	1
✓		✓	✓
17	17	16	17
✓	✓	✓	✓
✓	✓	✓	✓

Potatoes	FLORIDA	✓	✓
Potatoes	IDAHO	✓	✓
Potatoes	MAINE	✓	✓
Potatoes	MICHIGAN	✓	✓
Potatoes	MINNESOTA	✓	✓
Potatoes	MONTANA	✓	✓
Potatoes	NEBRASKA	✓	✓
Potatoes	NEW YORK	✓	✓
Potatoes	NORTH CAROLINA	✓	✓
Potatoes	NORTH DAKOTA	✓	✓
Potatoes	OREGON	✓	✓
Potatoes	PENNSYLVANIA	✓	✓
Potatoes	TEXAS	✓	✓
Potatoes	WASHINGTON	✓	✓
Potatoes	WISCONSIN	✓	✓
<b>Pumpkins</b>	<b>National (# = states surveyed)</b>	<b>22</b>	<b>21</b>
Pumpkins	CALIFORNIA	✓	✓
Pumpkins	COLORADO	✓	
Pumpkins	CONNECTICUT	✓	✓
Pumpkins	ILLINOIS	✓	✓
Pumpkins	INDIANA	✓	✓
Pumpkins	MARYLAND	✓	✓
Pumpkins	MASSACHUSETTS	✓	✓
Pumpkins	MICHIGAN	✓	✓
Pumpkins	MINNESOTA	✓	✓
Pumpkins	MISSOURI	✓	✓
Pumpkins	NEW JERSEY	✓	✓
Pumpkins	NEW MEXICO	✓	✓
Pumpkins	NEW YORK	✓	✓
Pumpkins	NORTH CAROLINA	✓	✓
Pumpkins	OHIO	✓	✓
Pumpkins	OREGON	✓	✓
Pumpkins	PENNSYLVANIA	✓	✓
Pumpkins	TENNESSEE	✓	✓
Pumpkins	TEXAS	✓	✓
Pumpkins	VIRGINIA	✓	✓
Pumpkins	WASHINGTON	✓	✓
Pumpkins	WISCONSIN	✓	✓
<b>Rice</b>	<b>National (# = states surveyed)</b>	<b>6</b>	<b>6</b>
Rice	ARKANSAS	✓	✓
Rice	CALIFORNIA	✓	✓
Rice	LOUISIANA	✓	✓
Rice	MISSISSIPPI	✓	✓
Rice	MISSOURI	✓	✓
Rice	TEXAS	✓	✓
<b>Sorghum (Milo)</b>	<b>National (# = states surveyed)</b>	<b>12</b>	<b>12</b>

✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
21		2	22
✓		✓	✓
			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓		✓	✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
6			6
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
			12

Sorghum (Milo)	ARKANSAS	✓	✓
Sorghum (Milo)	COLORADO	✓	✓
Sorghum (Milo)	GEORGIA	✓	✓
Sorghum (Milo)	ILLINOIS	✓	✓
Sorghum (Milo)	KANSAS	✓	✓
Sorghum (Milo)	LOUISIANA	✓	✓
Sorghum (Milo)	MISSOURI	✓	✓
Sorghum (Milo)	NEBRASKA	✓	✓
Sorghum (Milo)	NEW MEXICO	✓	✓
Sorghum (Milo)	OKLAHOMA	✓	✓
Sorghum (Milo)	SOUTH DAKOTA	✓	✓
Sorghum (Milo)	TEXAS	✓	✓
<b>Soybeans</b>	<b>National (# = states surveyed)</b>	<b>28</b>	<b>28</b>
Soybeans	ALABAMA	✓	✓
Soybeans	ARKANSAS	✓	✓
Soybeans	DELAWARE	✓	✓
Soybeans	GEORGIA	✓	✓
Soybeans	ILLINOIS	✓	✓
Soybeans	INDIANA	✓	✓
Soybeans	IOWA	✓	✓
Soybeans	KANSAS	✓	✓
Soybeans	KENTUCKY	✓	✓
Soybeans	LOUISIANA	✓	✓
Soybeans	MARYLAND	✓	✓
Soybeans	MICHIGAN	✓	✓
Soybeans	MINNESOTA	✓	✓
Soybeans	MISSISSIPPI	✓	✓
Soybeans	MISSOURI	✓	✓
Soybeans	NEBRASKA	✓	✓
Soybeans	NEW YORK	✓	✓
Soybeans	NORTH CAROLINA	✓	✓
Soybeans	NORTH DAKOTA	✓	✓
Soybeans	OHIO	✓	✓
Soybeans	OKLAHOMA	✓	✓
Soybeans	PENNSYLVANIA	✓	✓
Soybeans	SOUTH CAROLINA	✓	✓
Soybeans	SOUTH DAKOTA	✓	✓
Soybeans	TENNESSEE	✓	✓
Soybeans	TEXAS	✓	✓
Soybeans	VIRGINIA	✓	✓
Soybeans	WISCONSIN	✓	✓
<b>Spinach</b>	<b>National (# = states surveyed)</b>	<b>6</b>	<b>6</b>
Spinach	ARIZONA	✓	✓
Spinach	CALIFORNIA	✓	✓
Spinach	COLORADO	✓	✓
Spinach	NEW JERSEY	✓	✓





Spinach	OKLAHOMA	✓	✓
Spinach	TEXAS	✓	✓
<b>Squash</b>	<b>National (# = states surveyed)</b>	<b>16</b>	<b>16</b>
Squash	CALIFORNIA	✓	✓
Squash	CONNECTICUT	✓	✓
Squash	FLORIDA	✓	✓
Squash	GEORGIA	✓	✓
Squash	MASSACHUSETTS	✓	✓
Squash	MICHIGAN	✓	✓
Squash	NEW JERSEY	✓	✓
Squash	NEW YORK	✓	✓
Squash	NORTH CAROLINA	✓	✓
Squash	OHIO	✓	✓
Squash	OREGON	✓	✓
Squash	PENNSYLVANIA	✓	✓
Squash	SOUTH CAROLINA	✓	✓
Squash	TENNESSEE	✓	✓
Squash	TEXAS	✓	✓
Squash	WISCONSIN	✓	✓
<b>Strawberries</b>	<b>National (# = states surveyed)</b>	<b>7</b>	<b>7</b>
Strawberries	CALIFORNIA	✓	✓
Strawberries	FLORIDA	✓	✓
Strawberries	MICHIGAN	✓	✓
Strawberries	NEW YORK	✓	✓
Strawberries	OREGON	✓	✓
Strawberries	PENNSYLVANIA	✓	✓
Strawberries	WASHINGTON	✓	✓
<b>Sugar Beets</b>	<b>National (# = states surveyed)</b>	<b>9</b>	<b>9</b>
Sugar Beets	CALIFORNIA	✓	✓
Sugar Beets	COLORADO	✓	✓
Sugar Beets	IDAHO	✓	✓
Sugar Beets	MICHIGAN	✓	✓
Sugar Beets	MINNESOTA	✓	✓
Sugar Beets	MONTANA	✓	✓
Sugar Beets	NEBRASKA	✓	✓
Sugar Beets	NORTH DAKOTA	✓	✓
Sugar Beets	WYOMING	✓	✓
<b>Sugarcane</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Sugarcane	FLORIDA	✓	✓
Sugarcane	LOUISIANA	✓	✓
<b>Sunflowers</b>	<b>National (# = states surveyed)</b>	<b>7</b>	<b>7</b>
Sunflowers	COLORADO	✓	✓
Sunflowers	KANSAS	✓	✓
Sunflowers	MINNESOTA	✓	✓
Sunflowers	NEBRASKA	✓	✓
Sunflowers	NORTH DAKOTA	✓	✓

✓			✓
✓			✓
16		8	16
✓		✓	✓
✓			✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓			✓
✓		✓	✓
✓			✓
✓		✓	✓
✓			✓
7		6	7
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓		✓	✓
✓		✓	✓
9			9
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
2	2		2
✓	✓		✓
✓	✓		✓
			7
			✓
			✓
			✓
			✓
			✓

Sunflowers	SOUTH DAKOTA	✓	✓
Sunflowers	TEXAS	✓	✓
<b>Sweet Corn</b>	<b>National (# = states surveyed)</b>	<b>13</b>	<b>13</b>
Sweet Corn	CALIFORNIA	✓	✓
Sweet Corn	FLORIDA	✓	✓
Sweet Corn	GEORGIA	✓	✓
Sweet Corn	ILLINOIS	✓	✓
Sweet Corn	MICHIGAN	✓	✓
Sweet Corn	MINNESOTA	✓	✓
Sweet Corn	NEW JERSEY	✓	✓
Sweet Corn	NEW YORK	✓	✓
Sweet Corn	OHIO	✓	✓
Sweet Corn	OREGON	✓	✓
Sweet Corn	PENNSYLVANIA	✓	✓
Sweet Corn	WASHINGTON	✓	✓
Sweet Corn	WISCONSIN	✓	✓
<b>Tobacco</b>	<b>National (# = states surveyed)</b>	<b>8</b>	<b>8</b>
Tobacco	GEORGIA	✓	✓
Tobacco	KENTUCKY	✓	✓
Tobacco	NORTH CAROLINA	✓	✓
Tobacco	OHIO	✓	✓
Tobacco	PENNSYLVANIA	✓	✓
Tobacco	SOUTH CAROLINA	✓	✓
Tobacco	TENNESSEE	✓	✓
Tobacco	VIRGINIA	✓	✓
<b>Tomatoes</b>	<b>National (# = states surveyed)</b>	<b>2</b>	<b>2</b>
Tomatoes	CALIFORNIA	✓	✓
Tomatoes	FLORIDA	✓	✓
<b>Walnuts</b>	<b>National (# = states surveyed)</b>	<b>1</b>	<b>1</b>
Walnuts	CALIFORNIA	✓	✓
<b>Watermelons</b>	<b>National (# = states surveyed)</b>	<b>13</b>	<b>13</b>
Watermelons	ALABAMA	✓	✓
Watermelons	ARIZONA	✓	✓
Watermelons	CALIFORNIA	✓	✓
Watermelons	FLORIDA	✓	✓
Watermelons	GEORGIA	✓	✓
Watermelons	INDIANA	✓	✓
Watermelons	MARYLAND	✓	✓
Watermelons	MISSISSIPPI	✓	✓
Watermelons	MISSOURI	✓	✓
Watermelons	NORTH CAROLINA	✓	✓
Watermelons	OKLAHOMA	✓	✓
Watermelons	SOUTH CAROLINA	✓	✓
Watermelons	TEXAS	✓	✓
<b>Wheat, Spring</b>	<b>National (# = states surveyed)</b>	<b>9</b>	<b>9</b>
Wheat, Spring	ARIZONA	✓	✓

			✓
			✓
13		6	13
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓			✓
✓			✓
✓			✓
8	8	4	8
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
2	1	2	2
✓	✓	✓	✓
✓		✓	✓
1		1	1
✓		✓	✓
13		9	13
✓			✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓		✓	✓
✓			✓
✓			✓
✓		✓	✓
✓		✓	✓
✓			✓
✓		✓	✓
✓		✓	✓
9			9
✓			✓

Wheat, Spring	CALIFORNIA	✓	✓
Wheat, Spring	IDAHO	✓	✓
Wheat, Spring	MINNESOTA	✓	✓
Wheat, Spring	MONTANA	✓	✓
Wheat, Spring	NORTH DAKOTA	✓	✓
Wheat, Spring	OREGON	✓	✓
Wheat, Spring	SOUTH DAKOTA	✓	✓
Wheat, Spring	WASHINGTON	✓	✓
<b>Wheat, Spring</b>	<b>National (# = states surveyed)</b>	<b>25</b>	<b>25</b>
Wheat, Winter	ARKANSAS	✓	✓
Wheat, Winter	CALIFORNIA	✓	✓
Wheat, Winter	COLORADO	✓	✓
Wheat, Winter	GEORGIA	✓	✓
Wheat, Winter	IDAHO	✓	✓
Wheat, Winter	ILLINOIS	✓	✓
Wheat, Winter	INDIANA	✓	✓
Wheat, Winter	KANSAS	✓	✓
Wheat, Winter	KENTUCKY	✓	✓
Wheat, Winter	MICHIGAN	✓	✓
Wheat, Winter	MISSOURI	✓	✓
Wheat, Winter	MONTANA	✓	✓
Wheat, Winter	NEBRASKA	✓	✓
Wheat, Winter	NEW MEXICO	✓	✓
Wheat, Winter	NORTH CAROLINA	✓	✓
Wheat, Winter	NORTH DAKOTA	✓	✓
Wheat, Winter	OHIO	✓	✓
Wheat, Winter	OKLAHOMA	✓	✓
Wheat, Winter	OREGON	✓	✓
Wheat, Winter	SOUTH DAKOTA	✓	✓
Wheat, Winter	TENNESSEE	✓	✓
Wheat, Winter	TEXAS	✓	✓
Wheat, Winter	VIRGINIA	✓	✓
Wheat, Winter	WASHINGTON	✓	✓
Wheat, Winter	WISCONSIN	✓	✓



**NASS Survey Coverage by Crop/State/Pesticide**  
✓ = Surveyed

Crop	State	Herbicide
<b>APPLES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
APPLES, BEARING	CALIFORNIA	✓
APPLES, BEARING	MICHIGAN	✓
APPLES, BEARING	NEW YORK	✓
APPLES, BEARING	NORTH CAROLINA	✓
APPLES, BEARING	OREGON	✓
APPLES, BEARING	PENNSYLVANIA	✓
APPLES, BEARING	WASHINGTON	✓
<b>APRICOTS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
APRICOTS, BEARING	CALIFORNIA	✓
<b>ASPARAGUS</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
ASPARAGUS	CALIFORNIA	✓
ASPARAGUS	MICHIGAN	✓
ASPARAGUS	WASHINGTON	✓
<b>AVOCADOS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
AVOCADOS, BEARING	CALIFORNIA	✓
<b>BEANS, SNAP, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
BEANS, SNAP, FRESH MARKET	CALIFORNIA	✓
BEANS, SNAP, FRESH MARKET	FLORIDA	✓
BEANS, SNAP, FRESH MARKET	GEORGIA	✓
BEANS, SNAP, FRESH MARKET	NEW YORK	✓
BEANS, SNAP, FRESH MARKET	NORTH CAROLINA	✓
BEANS, SNAP, FRESH MARKET	TENNESSEE	✓
<b>BEANS, SNAP, PROCESSING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
BEANS, SNAP, PROCESSING	ILLINOIS	✓
BEANS, SNAP, PROCESSING	MICHIGAN	✓
BEANS, SNAP, PROCESSING	NEW YORK	✓
BEANS, SNAP, PROCESSING	OREGON	✓
BEANS, SNAP, PROCESSING	PENNSYLVANIA	✓
BEANS, SNAP, PROCESSING	WISCONSIN	✓
<b>BLACKBERRIES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
BLACKBERRIES, BEARING	OREGON	✓
<b>BLUEBERRIES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
BLUEBERRIES, BEARING	GEORGIA	✓
BLUEBERRIES, BEARING	MICHIGAN	✓
BLUEBERRIES, BEARING	NEW JERSEY	✓
BLUEBERRIES, BEARING	NORTH CAROLINA	✓
BLUEBERRIES, BEARING	OREGON	✓
BLUEBERRIES, BEARING	WASHINGTON	✓
<b>BROCCOLI</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>

## Type (2012-2016)

Insecticide	Fungicide	Other	Any Pesticide Type
7	7	7	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
6	6	3	6
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
6	6	2	6
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
1	1	1	1
✓	✓	✓	✓
6	6	6	6
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1



BROCCOLI	CALIFORNIA	✓
<b>CABBAGE, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
CABBAGE, FRESH MARKET	CALIFORNIA	✓
CABBAGE, FRESH MARKET	FLORIDA	✓
CABBAGE, FRESH MARKET	GEORGIA	✓
CABBAGE, FRESH MARKET	NEW YORK	✓
CABBAGE, FRESH MARKET	NORTH CAROLINA	✓
CABBAGE, FRESH MARKET	TEXAS	✓
CABBAGE, FRESH MARKET	WISCONSIN	✓
<b>CARROTS, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
CARROTS, FRESH MARKET	CALIFORNIA	✓
CARROTS, FRESH MARKET	MICHIGAN	✓
CARROTS, FRESH MARKET	TEXAS	✓
<b>CARROTS, PROCESSING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>4</b>
CARROTS, PROCESSING	CALIFORNIA	✓
CARROTS, PROCESSING	MINNESOTA	✓
CARROTS, PROCESSING	WASHINGTON	✓
CARROTS, PROCESSING	WISCONSIN	✓
<b>CAULIFLOWER</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
CAULIFLOWER	CALIFORNIA	✓
<b>CELERY</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
CELERY	CALIFORNIA	✓
<b>CHERRIES, SWEET, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>4</b>
CHERRIES, SWEET, BEARING	CALIFORNIA	✓
CHERRIES, SWEET, BEARING	MICHIGAN	✓
CHERRIES, SWEET, BEARING	OREGON	✓
CHERRIES, SWEET, BEARING	WASHINGTON	✓
<b>CHERRIES, TART, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
CHERRIES, TART, BEARING	MICHIGAN	✓
CHERRIES, TART, BEARING	NEW YORK	✓
CHERRIES, TART, BEARING	WASHINGTON	✓
<b>CORN</b>	<b>National (Program States) (# = states surveyed)</b>	<b>19</b>
CORN	COLORADO	✓
CORN	GEORGIA	✓
CORN	ILLINOIS	✓
CORN	INDIANA	✓
CORN	IOWA	✓
CORN	KANSAS	✓
CORN	KENTUCKY	✓
CORN	MICHIGAN	✓
CORN	MINNESOTA	✓
CORN	MISSOURI	✓
CORN	NEBRASKA	✓
CORN	NEW YORK	✓
CORN	NORTH CAROLINA	✓
CORN	NORTH DAKOTA	✓

✓	✓	✓	✓
7	7	5	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
3	3	2	3
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
4	4	1	4
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
1	1	1	1
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
4	4	4	4
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
19	18	15	19
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓

CORN	OHIO	✓
CORN	PENNSYLVANIA	✓
CORN	SOUTH DAKOTA	✓
CORN	TEXAS	✓
CORN	WISCONSIN	✓
<b>COTTON</b>	<b>National (Program States) (# = states surveyed)</b>	<b>11</b>
COTTON	ALABAMA	✓
COTTON	ARIZONA	✓
COTTON	ARKANSAS	✓
COTTON	CALIFORNIA	✓
COTTON	GEORGIA	✓
COTTON	MISSISSIPPI	✓
COTTON	MISSOURI	✓
COTTON	NORTH CAROLINA	✓
COTTON	SOUTH CAROLINA	✓
COTTON	TENNESSEE	✓
COTTON	TEXAS	✓
<b>CUCUMBERS, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
CUCUMBERS, FRESH MARKET	CALIFORNIA	✓
CUCUMBERS, FRESH MARKET	FLORIDA	✓
CUCUMBERS, FRESH MARKET	GEORGIA	✓
CUCUMBERS, FRESH MARKET	MICHIGAN	✓
CUCUMBERS, FRESH MARKET	NEW JERSEY	✓
CUCUMBERS, FRESH MARKET	NEW YORK	✓
CUCUMBERS, FRESH MARKET	NORTH CAROLINA	✓
<b>CUCUMBERS, PROCESSING, PICKLE</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
CUCUMBERS, PROCESSING, P	CALIFORNIA	
CUCUMBERS, PROCESSING, P	FLORIDA	✓
CUCUMBERS, PROCESSING, P	MICHIGAN	✓
CUCUMBERS, PROCESSING, P	NORTH CAROLINA	✓
CUCUMBERS, PROCESSING, P	OHIO	✓
CUCUMBERS, PROCESSING, P	TEXAS	✓
CUCUMBERS, PROCESSING, P	WISCONSIN	✓
<b>DATES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
DATES, BEARING	CALIFORNIA	✓
<b>FIGS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
FIGS, BEARING	CALIFORNIA	✓
<b>GARLIC</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
GARLIC	CALIFORNIA	✓
<b>GRAPEFRUIT, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
GRAPEFRUIT, BEARING	CALIFORNIA	✓
GRAPEFRUIT, BEARING	FLORIDA	✓
GRAPEFRUIT, BEARING	TEXAS	✓
<b>GRAPES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
GRAPES, BEARING	CALIFORNIA	✓
GRAPES, BEARING	NEW YORK	✓

✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
11	8	11	11
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓		✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓		✓	✓
✓		✓	✓
✓	✓	✓	✓
7	7	6	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
6	6	2	6
✓			✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
	✓		✓
2			2
✓			✓
1	1	1	1
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓

GRAPES, BEARING	WASHINGTON	✓
<b>GRAPES, JUICE TYPE, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
GRAPES, JUICE TYPE, BEARING	WASHINGTON	✓
<b>GRAPES, RAISIN TYPE, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
GRAPES, RAISIN TYPE, BEARING	CALIFORNIA	✓
<b>GRAPES, JUICE TYPE, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
GRAPES, JUICE TYPE, BEARING	WASHINGTON	✓
<b>GRAPES, WINE TYPE, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
GRAPES, WINE TYPE, BEARING	CALIFORNIA	✓
GRAPES, WINE TYPE, BEARING	WASHINGTON	✓
<b>KIWIFRUIT, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
KIWIFRUIT, BEARING	CALIFORNIA	✓
<b>LEMONS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
LEMONS, BEARING	CALIFORNIA	✓
<b>LETTUCE, (EXCL HEAD)</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
LETTUCE, (EXCL HEAD)	ARIZONA	✓
LETTUCE, (EXCL HEAD)	CALIFORNIA	✓
<b>LETTUCE, HEAD</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
LETTUCE, HEAD	ARIZONA	✓
LETTUCE, HEAD	CALIFORNIA	✓
<b>MELONS, CANTALOUPE</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
MELONS, CANTALOUPE	ARIZONA	✓
MELONS, CANTALOUPE	CALIFORNIA	✓
MELONS, CANTALOUPE	TEXAS	✓
<b>MELONS, HONEYDEW</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
MELONS, HONEYDEW	ARIZONA	✓
MELONS, HONEYDEW	CALIFORNIA	✓
<b>MELONS, WATERMELON</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
MELONS, WATERMELON	CALIFORNIA	✓
MELONS, WATERMELON	FLORIDA	✓
MELONS, WATERMELON	GEORGIA	✓
MELONS, WATERMELON	INDIANA	✓
MELONS, WATERMELON	NORTH CAROLINA	✓
MELONS, WATERMELON	SOUTH CAROLINA	✓
MELONS, WATERMELON	TEXAS	✓
<b>NECTARINES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
NECTARINES, BEARING	CALIFORNIA	✓
<b>OATS</b>	<b>National (Program States) (# = states surveyed)</b>	<b>13</b>
OATS	ILLINOIS	✓
OATS	IOWA	✓
OATS	KANSAS	✓
OATS	MICHIGAN	✓
OATS	MINNESOTA	✓
OATS	NEBRASKA	✓
OATS	NEW YORK	✓
OATS	NORTH DAKOTA	✓

✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
2	2	2	2
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
2	2	2	2
✓	✓	✓	✓
✓	✓	✓	✓
2	2	2	2
✓	✓	✓	✓
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
2	2	1	2
✓	✓		✓
✓	✓	✓	✓
7	7	6	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
8	11	2	13
	✓		✓
	✓		✓
	✓		✓
✓	✓		✓
✓	✓		✓
	✓		✓
✓	✓		✓
✓	✓		✓

OATS	OHIO	✓
OATS	PENNSYLVANIA	✓
OATS	SOUTH DAKOTA	✓
OATS	TEXAS	✓
OATS	WISCONSIN	✓
<b>OLIVES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
OLIVES, BEARING	CALIFORNIA	✓
<b>ONIONS, DRY</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
ONIONS, DRY	CALIFORNIA	✓
ONIONS, DRY	GEORGIA	✓
ONIONS, DRY	NEW YORK	✓
ONIONS, DRY	OREGON	✓
ONIONS, DRY	TEXAS	✓
ONIONS, DRY	WASHINGTON	✓
ONIONS, DRY	WISCONSIN	✓
<b>ORANGES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
ORANGES, BEARING	CALIFORNIA	✓
ORANGES, BEARING	FLORIDA	✓
<b>PEACHES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
PEACHES, BEARING	CALIFORNIA	✓
PEACHES, BEARING	GEORGIA	✓
PEACHES, BEARING	MICHIGAN	✓
PEACHES, BEARING	NEW JERSEY	✓
PEACHES, BEARING	PENNSYLVANIA	✓
PEACHES, BEARING	SOUTH CAROLINA	✓
PEACHES, BEARING	TEXAS	✓
<b>PEANUTS</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
PEANUTS	ALABAMA	✓
PEANUTS	FLORIDA	✓
PEANUTS	GEORGIA	✓
PEANUTS	NORTH CAROLINA	✓
PEANUTS	SOUTH CAROLINA	✓
PEANUTS	TEXAS	✓
<b>PEARS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
PEARS, BEARING	CALIFORNIA	✓
PEARS, BEARING	OREGON	✓
PEARS, BEARING	WASHINGTON	✓
<b>PEAS, GREEN, PROCESSING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>4</b>
PEAS, GREEN, PROCESSING	MINNESOTA	✓
PEAS, GREEN, PROCESSING	OREGON	✓
PEAS, GREEN, PROCESSING	WASHINGTON	✓
PEAS, GREEN, PROCESSING	WISCONSIN	✓
<b>PEPPERS, BELL</b>	<b>National (Program States) (# = states surveyed)</b>	<b>5</b>
PEPPERS, BELL	CALIFORNIA	✓
PEPPERS, BELL	FLORIDA	✓
PEPPERS, BELL	GEORGIA	✓

			✓
✓			✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
7	7	6	7
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
2	2	2	2
✓	✓	✓	✓
✓	✓	✓	✓
7	7	7	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
6	6	4	6
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
4	3	1	4
✓			✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
5	5	5	5
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓



PEPPERS, BELL	NEW JERSEY	✓
PEPPERS, BELL	NORTH CAROLINA	✓
<b>PLUMS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
PLUMS, BEARING	CALIFORNIA	✓
<b>POTATOES, FALL</b>	<b>National (Program States) (# = states surveyed)</b>	<b>8</b>
POTATOES, FALL	COLORADO	✓
POTATOES, FALL	IDAHO	✓
POTATOES, FALL	MAINE	✓
POTATOES, FALL	MICHIGAN	✓
POTATOES, FALL	MINNESOTA	✓
POTATOES, FALL	NORTH DAKOTA	✓
POTATOES, FALL	WASHINGTON	✓
POTATOES, FALL	WISCONSIN	✓
<b>PRUNES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
PRUNES, BEARING	CALIFORNIA	✓
<b>PUMPKINS</b>	<b>National (Program States) (# = states surveyed)</b>	<b>5</b>
PUMPKINS	CALIFORNIA	✓
PUMPKINS	ILLINOIS	✓
PUMPKINS	MICHIGAN	✓
PUMPKINS	OHIO	✓
PUMPKINS	PENNSYLVANIA	✓
<b>RASPBERRIES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
RASPBERRIES, BEARING	OREGON	✓
RASPBERRIES, BEARING	WASHINGTON	✓
<b>RICE</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
RICE	ARKANSAS	✓
RICE	CALIFORNIA	✓
RICE	LOUISIANA	✓
RICE	MISSISSIPPI	✓
RICE	MISSOURI	✓
RICE	TEXAS	✓
<b>SOYBEANS</b>	<b>National (Program States) (# = states surveyed)</b>	<b>19</b>
SOYBEANS	ARKANSAS	✓
SOYBEANS	ILLINOIS	✓
SOYBEANS	INDIANA	✓
SOYBEANS	IOWA	✓
SOYBEANS	KANSAS	✓
SOYBEANS	KENTUCKY	✓
SOYBEANS	LOUISIANA	✓
SOYBEANS	MICHIGAN	✓
SOYBEANS	MINNESOTA	✓
SOYBEANS	MISSISSIPPI	✓
SOYBEANS	MISSOURI	✓
SOYBEANS	NEBRASKA	✓
SOYBEANS	NORTH CAROLINA	✓
SOYBEANS	NORTH DAKOTA	✓



SOYBEANS	OHIO	✓
SOYBEANS	SOUTH DAKOTA	✓
SOYBEANS	TENNESSEE	✓
SOYBEANS	VIRGINIA	✓
SOYBEANS	WISCONSIN	✓
<b>SPINACH, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
SPINACH, FRESH MARKET	ARIZONA	✓
SPINACH, FRESH MARKET	CALIFORNIA	✓
SPINACH, FRESH MARKET	TEXAS	✓
<b>SQUASH</b>	<b>National (Program States) (# = states surveyed)</b>	<b>7</b>
SQUASH	CALIFORNIA	✓
SQUASH	FLORIDA	✓
SQUASH	GEORGIA	✓
SQUASH	MICHIGAN	✓
SQUASH	NEW JERSEY	✓
SQUASH	NEW YORK	✓
SQUASH	NORTH CAROLINA	✓
<b>STRAWBERRIES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>4</b>
STRAWBERRIES, BEARING	CALIFORNIA	✓
STRAWBERRIES, BEARING	FLORIDA	✓
STRAWBERRIES, BEARING	OREGON	✓
STRAWBERRIES, BEARING	WASHINGTON	✓
<b>SWEET CORN, FRESH MARKET</b>	<b>National (Program States) (# = states surveyed)</b>	<b>15</b>
SWEET CORN, FRESH MARKET	CALIFORNIA	✓
SWEET CORN, FRESH MARKET	COLORADO	✓
SWEET CORN, FRESH MARKET	FLORIDA	✓
SWEET CORN, FRESH MARKET	GEORGIA	✓
SWEET CORN, FRESH MARKET	ILLINOIS	✓
SWEET CORN, FRESH MARKET	INDIANA	✓
SWEET CORN, FRESH MARKET	MICHIGAN	✓
SWEET CORN, FRESH MARKET	NEW JERSEY	✓
SWEET CORN, FRESH MARKET	NEW YORK	✓
SWEET CORN, FRESH MARKET	NORTH CAROLINA	✓
SWEET CORN, FRESH MARKET	OHIO	✓
SWEET CORN, FRESH MARKET	OREGON	✓
SWEET CORN, FRESH MARKET	PENNSYLVANIA	✓
SWEET CORN, FRESH MARKET	TEXAS	✓
SWEET CORN, FRESH MARKET	WISCONSIN	✓
<b>SWEET CORN, PROCESSING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>3</b>
SWEET CORN, PROCESSING	MINNESOTA	✓
SWEET CORN, PROCESSING	WASHINGTON	✓
SWEET CORN, PROCESSING	WISCONSIN	✓
<b>TANGELOS, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
TANGELOS, BEARING	FLORIDA	✓
<b>TANGERINES, BEARING</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
TANGERINES, BEARING	CALIFORNIA	✓

✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
3	3	3	3
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
7	7	7	7
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
4	4	4	4
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
15	13	7	15
✓	✓	✓	✓
✓		✓	✓
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
3	3	2	3
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
2	2	2	2
✓	✓	✓	✓

TANGERINES, BEARING	FLORIDA	✓
<b>TOMATOES, IN THE OPEN, FRESH</b>	<b>National (Program States) (# = states surveyed)</b>	<b>6</b>
TOMATOES, IN THE OPEN, FRESH	CALIFORNIA	✓
TOMATOES, IN THE OPEN, FRESH	FLORIDA	✓
TOMATOES, IN THE OPEN, FRESH	NEW JERSEY	✓
TOMATOES, IN THE OPEN, FRESH	NORTH CAROLINA	✓
TOMATOES, IN THE OPEN, FRESH	OHIO	✓
TOMATOES, IN THE OPEN, FRESH	TENNESSEE	✓
<b>TOMATOES, IN THE OPEN, PROCESSED</b>	<b>National (Program States) (# = states surveyed)</b>	<b>1</b>
TOMATOES, IN THE OPEN, PROCESSED	CALIFORNIA	✓
<b>WHEAT, SPRING, (EXCL DURUM)</b>	<b>National (Program States) (# = states surveyed)</b>	<b>4</b>
WHEAT, SPRING, (EXCL DURUM)	MINNESOTA	✓
WHEAT, SPRING, (EXCL DURUM)	MONTANA	✓
WHEAT, SPRING, (EXCL DURUM)	NORTH DAKOTA	✓
WHEAT, SPRING, (EXCL DURUM)	SOUTH DAKOTA	✓
<b>WHEAT, SPRING, DURUM</b>	<b>National (Program States) (# = states surveyed)</b>	<b>2</b>
WHEAT, SPRING, DURUM	MONTANA	✓
WHEAT, SPRING, DURUM	NORTH DAKOTA	✓
<b>WHEAT, WINTER</b>	<b>National (Program States) (# = states surveyed)</b>	<b>14</b>
WHEAT, WINTER	COLORADO	✓
WHEAT, WINTER	IDAHO	✓
WHEAT, WINTER	ILLINOIS	✓
WHEAT, WINTER	KANSAS	✓
WHEAT, WINTER	MISSOURI	✓
WHEAT, WINTER	MONTANA	✓
WHEAT, WINTER	NEBRASKA	✓
WHEAT, WINTER	NORTH CAROLINA	✓
WHEAT, WINTER	OHIO	✓
WHEAT, WINTER	OKLAHOMA	✓
WHEAT, WINTER	OREGON	✓
WHEAT, WINTER	SOUTH DAKOTA	✓
WHEAT, WINTER	TEXAS	✓
WHEAT, WINTER	WASHINGTON	✓

✓	✓	✓	✓
6	6	6	6
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
1	1	1	1
✓	✓	✓	✓
4	4		4
✓	✓		✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
2	2		2
✓	✓		✓
✓	✓		✓
14	14	6	14
✓	✓		✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓	✓	✓
✓	✓		✓
✓	✓		✓
✓	✓	✓	✓

**California Crops based on 2012 Census of Agriculture.**

crops should use CADPR data as natic

Crop	% in CA (2012 Census of Ag)
<b>Vegetables</b>	
Artichokes Excluding Jerusalem	99%
Brussels Sprouts	96%
Garlic	86%
Celery	83%
Cauliflower	82%
Broccoli	81%
<b>Fruit and Nut Tree</b>	
Almonds	100%
Walnuts, English	99%
Pistachios	98%
Pomegranates	98%
Plumcots, Pluot, and Other Plum-Apricot	98%
Olives	97%
Figs	96%
Plums and Prunes	94%
Nectarines	87%
Apricots	84%
Persimmons	82%
Avocados	81%
Lemons	80%
<b>Other Fruits</b>	
Kiwifruit	98%
Grapes	83%
Honeydew Melons	81%

Only these

nally representative.

Kynetec Survey Status re: CA
Kynetec surveys only California
<i>not surveyed</i>
Kynetec surveys only California
88%+ of Kynetec observations are from California
90%+ of Kynetec observations are from California
Kynetec surveys only California
es
Kynetec surveys only California
Kynetec surveys only California
Kynetec surveys only California
<i>not surveyed</i>
<i>not surveyed</i>
<i>not surveyed</i>
<i>not surveyed</i>
Kynetec surveys only California
<i>not surveyed</i>
Kynetec surveys only California
<i>not surveyed</i>
<i>not surveyed</i>
88%+ of Kynetec observations are from California
<i>not surveyed</i>
90%+ of Kynetec observations are from California
<i>not surveyed</i>



**Cell:** A1

**Comment:** [Threaded comment]

Your version of Excel allows you to read this threaded comment; however, any edits to it will get removed if the file is opened in a newer version of Excel. Learn more: <https://go.microsoft.com/fwlink/?linkid=870924>

Comment:

this info is broadly available in the larger table. should we delete this for simplicity?

Message

---

**From:** Suarez, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9BDB9158F4B245F8969069AC019D4F13-MARK E SUAREZ]  
**Sent:** 1/28/2020 4:08:20 PM  
**To:** Doucoure, Cynthia [Doucoure.Cynthia@epa.gov]; Otte, Briana [otte.briana@epa.gov]; Hendrick, Lindsey [hendrick.lindsey@epa.gov]; Jarboe, Stephen [Jarboe.Steve@epa.gov]; Johnson, Hope [johnson.hope@epa.gov]  
**Subject:** FW: Example format - PCT inputs  
**Attachments:** Methomyl\_SUUM\_reformatted\_stage1.xlsx

See email from Jen below and the attached file for the formatting.

---

**From:** Connolly, Jennifer <Connolly.Jennifer@epa.gov>  
**Sent:** Friday, January 24, 2020 9:48 AM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Subject:** Example format - PCT inputs

Hey Mark,

I was looking through my notes from meetings and realized I forgot to send you of how I formatted the data from the SUUM to generate the inputs for ESA and not PCT. Sorry for the delay!

# Ex. 6 Personal Privacy (PP)

Let me know if you want to have a quick chat about this next week.

Jen

\*\*\*\*\*

Jennifer Connolly, GIS Biologist

Environmental Information Support Branch  
Environmental Fate and Effects Division  
Office of Pesticide Programs, U.S. EPA  
1200 Pennsylvania Avenue, NW (7507P)  
Washington, DC 20460  
phone: (703) 347-0405  
fax: (703) 305-0619  
e-mail: connolly.jennifer@epa.gov

\*\*\*\*\*

Message

---

**From:** Suarez, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9BDB9158F4B245F8969069AC019D4F13-MARK E SUAREZ]  
**Sent:** 8/26/2019 3:02:45 PM  
**To:** Corbin, Mark [Corbin.Mark@epa.gov]  
**Subject:** RE: CLA comments on usage

## Ex. 5 Deliberative Process (DP)

---

**From:** Corbin, Mark <Corbin.Mark@epa.gov>  
**Sent:** Monday, August 26, 2019 10:54 AM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>; Paisley-Jones, Claire <Paisley-Jones.Claire@epa.gov>  
**Subject:** RE: CLA comments on usage

## Ex. 5 Deliberative Process (DP)

---

**From:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Sent:** Monday, August 26, 2019 10:47 AM  
**To:** Corbin, Mark <Corbin.Mark@epa.gov>; Paisley-Jones, Claire <Paisley-Jones.Claire@epa.gov>  
**Subject:** RE: CLA comments on usage

## Ex. 5 Deliberative Process (DP)

---

**From:** Corbin, Mark <Corbin.Mark@epa.gov>  
**Sent:** Monday, August 26, 2019 10:43 AM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>; Paisley-Jones, Claire <Paisley-Jones.Claire@epa.gov>  
**Subject:** CLA comments on usage

Have you all had a chance to look over the CLA comments on the ESA PCT method? In particular they have an analysis by Stone Environmental to calculate county level usage including PCT (appendix B of the submission)

Mark Corbin  
Branch Chief, Environmental Risk Branch 6  
Environmental Fate and Effects Division (7507P)  
Office of Pesticide Programs  
U.S. Environmental Protection Agency  
Washington DC 20460  
703-605-0033

Message

---

**From:** Suarez, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9BDB9158F4B245F8969069AC019D4F13-MARK E SUAREZ]  
**Sent:** 8/6/2019 5:40:30 PM  
**To:** Spatz, Dana [Spatz.Dana@epa.gov]  
**Subject:** RE: Chlorpyrifos - State Level PCT  
**Attachments:** Chlorpyrifos (059101) National and State Summary of Use and Usage.pdf

Dana,

## Ex. 5 Deliberative Process (DP)

Mark

---

**From:** Spatz, Dana <Spatz.Dana@epa.gov>  
**Sent:** Tuesday, August 06, 2019 9:25 AM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Subject:** RE: Chlorpyrifos - State Level PCT

## Ex. 5 Deliberative Process (DP)

---

**From:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Sent:** Tuesday, August 06, 2019 8:25 AM  
**To:** Spatz, Dana <Spatz.Dana@epa.gov>  
**Subject:** RE: Chlorpyrifos - State Level PCT

Dana,

I assumed that our conversation in the meeting last week was adequate to address this email, but do you need something in writing?

Mark

---

**From:** Spatz, Dana <Spatz.Dana@epa.gov>  
**Sent:** Monday, July 29, 2019 3:22 PM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Subject:** Re: Chlorpyrifos - State Level PCT

Mark,

Marietta is making this a high priority for EFED. When do you think BEAD could deliver an updated "super SUUM" for chlorpyrifos?

Sent from my iPhone

On Jul 29, 2019, at 11:21 AM, Suarez, Mark <[Suarez.Mark@epa.gov](mailto:Suarez.Mark@epa.gov)> wrote:

Dana,

Claire was referencing a PCA/PCT effort, with which I believe that you are aware, kickoff meeting. Mark Corbin is coordinating it.

Mark

---

**From:** Spatz, Dana

**Sent:** Monday, July 29, 2019 10:59 AM

**To:** Paisley-Jones, Claire <[Paisley-Jones.Claire@epa.gov](mailto:Paisley-Jones.Claire@epa.gov)>; Bohaty, Rochelle <[Bohaty.Rochelle@epa.gov](mailto:Bohaty.Rochelle@epa.gov)>

**Cc:** Suarez, Mark <[Suarez.Mark@epa.gov](mailto:Suarez.Mark@epa.gov)>

**Subject:** Re: Chlorpyrifos - State Level PCT

Could you please add us to the invite?

Thanks

**DANA S. SPATZ**

Branch Chief

Environmental Risk Branch III

Environmental Fate and Effects Division

Office of Pesticide Programs

U.S. Environmental Protection Agency

(703) 305-6063

---

**From:** Paisley-Jones, Claire <[Paisley-Jones.Claire@epa.gov](mailto:Paisley-Jones.Claire@epa.gov)>

**Sent:** Monday, July 29, 2019 10:56 AM

**To:** Spatz, Dana <[Spatz.Dana@epa.gov](mailto:Spatz.Dana@epa.gov)>; Bohaty, Rochelle <[Bohaty.Rochelle@epa.gov](mailto:Bohaty.Rochelle@epa.gov)>

**Cc:** Suarez, Mark <[Suarez.Mark@epa.gov](mailto:Suarez.Mark@epa.gov)>

**Subject:** RE: Chlorpyrifos - State Level PCT

Ah ok. We actually have a meeting tomorrow with some folks in EFED to discuss the suitability of using the PCT methodology developed for ESA in DWA.

---

**From:** Spatz, Dana

**Sent:** Monday, July 29, 2019 10:51 AM

**To:** Paisley-Jones, Claire <[Paisley-Jones.Claire@epa.gov](mailto:Paisley-Jones.Claire@epa.gov)>; Bohaty, Rochelle <[Bohaty.Rochelle@epa.gov](mailto:Bohaty.Rochelle@epa.gov)>

**Cc:** Suarez, Mark <Suarez.Mark@epa.gov>

**Subject:** Re: Chlorpyrifos - State Level PCT

We will be using it to update the chlorpyrifos drinking water assessment.

**DANA S. SPATZ**

Branch Chief

Environmental Risk Branch III

Environmental Fate and Effects Division

Office of Pesticide Programs

U.S. Environmental Protection Agency

(703) 305-6063

---

**From:** Paisley-Jones, Claire <Paisley-Jones.Claire@epa.gov>

**Sent:** Monday, July 29, 2019 10:46 AM

**To:** Bohaty, Rochelle <Bohaty.Rochelle@epa.gov>

**Cc:** Spatz, Dana <Spatz.Dana@epa.gov>; Suarez, Mark <Suarez.Mark@epa.gov>

**Subject:** RE: Chlorpyrifos - State Level PCT

The standard SUUM provides only national level data. However, there is another report that we produce in special situations (for example ESA and pollinator protections) that includes a second table with state level information, including PCTs. We've been calling these Super SUUMs.

There's a Super SUUM for chlorpyrifos, but it is somewhat out of date. What were you planning to use the state level PCT data for?

Claire

---

**From:** Bohaty, Rochelle

**Sent:** Monday, July 29, 2019 10:43 AM

**To:** Paisley-Jones, Claire <Paisley-Jones.Claire@epa.gov>

**Cc:** Spatz, Dana <Spatz.Dana@epa.gov>; Suarez, Mark <Suarez.Mark@epa.gov>

**Subject:** RE: Chlorpyrifos - State Level PCT

Claire,

I didn't realize the suum is used to estimate state level PCT. Perhaps I am getting things mixed up. Can you claify?

Rochelle

---

**From:** Paisley-Jones, Claire  
**Sent:** Monday, July 29, 2019 10:06 AM  
**To:** Bohaty, Rochelle <[Bohaty.Rochelle@epa.gov](mailto:Bohaty.Rochelle@epa.gov)>  
**Cc:** Spatz, Dana <[Spatz.Dana@epa.gov](mailto:Spatz.Dana@epa.gov)>; Suarez, Mark <[Suarez.Mark@epa.gov](mailto:Suarez.Mark@epa.gov)>  
**Subject:** RE: Chlorpyrifos - State Level PCT

Yep, we did a chlorpyrifos suum for ESA.

There has been new data published since we put the suum out though, so it would likely need to be updated if you wanted to use it for anything new. How long that would take is pretty dependent on what else we have on our plate here. What were you going to use the data for?

Claire

---

**From:** Bohaty, Rochelle  
**Sent:** Monday, July 29, 2019 9:23 AM  
**To:** Paisley-Jones, Claire <[Paisley-Jones.Claire@epa.gov](mailto:Paisley-Jones.Claire@epa.gov)>  
**Cc:** Spatz, Dana <[Spatz.Dana@epa.gov](mailto:Spatz.Dana@epa.gov)>  
**Subject:** Chlorpyrifos - State Level PCT

Claire,

Do you have state level PCT data for chlorpyrifos? The same data as done for carbaryl and methomyl used in the ESA work. If not, how long does it take to develop these data?

Thanks,  
Rochelle F. H. Bohaty, PhD  
Senior Chemist  
Environmental Fate and Effects Division, ERB3  
Office of Pesticide Programs  
U.S. Environmental Protection Agency





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

M A Y 0 1 2 0 1 8

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

**MEMORANDUM**

**SUBJECT:** Chlorpyrifos (059101) National and State Summary of Use and Usage

**FROM:** Claire Paisley-Jones, Biologist  
Science Information and Analysis Branch  
BEAD (7503-P)

A handwritten signature, likely of Claire Paisley-Jones, is written in black ink to the right of the "FROM:" field.

**THRU:** Diann Sims, Chief *Diann Sims*  
Science Information and Analysis Branch  
BEAD (7503-P)

**TO:** Melissa Panger, Senior Science Advisor  
Environmental Fate and Effects Division

## Chlorpyrifos SIAB Use and Usage Matrix

(26 April 2018)

### Introduction

The Environmental Protection Agency (EPA) has been working with the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to develop a method for assessing the risks of pesticides to endangered and threatened species. Given that many listed species range over large areas, it is necessary to consider use of pesticides on a landscape scale, rather than simply a field or a small watershed. One consideration involves the percent of the crop in a given area (relevant to a listed species' range) that is treated with a pesticide. There are uncertainties in extrapolating from national level usage data to regional and state level ranges of protected species. In particular, national level data does not distinguish if there are areas of a species' range where usage is greater or less than the average national usage. In order to address these concerns, this document provides all available estimates of pesticide usage data for chlorpyrifos, nationally and by state. All registered use sites as of April 2018 are listed although usage data are not available for every site.

The intended use of the data presented here is to inform assumptions about how chlorpyrifos is used in the United States, and the extent, variability, and rate of that usage at the state level. Pesticide usage data are reported at the state level; usage data at smaller levels may not be statistically valid due to reduced sample size. Extent and variability of usage at the state level are presented using minimum, maximum, and average percent crop treated (PCT) over the five-year observation period. PCT is calculated as the percent of the acres grown for a crop that are treated with chlorpyrifos.

**Ex. 5 Deliberative Process (DP)**

## **Ex. 5 Deliberative Process (DP)**

The pesticide usage data summarized herein were obtained from both public and private (proprietary) sources. As presented, the data are not proprietary, business confidential, or a trade secret. The most recent five years of available data were used, 2011-2015, in order to represent current usage and the most recent use trend.

### Data Sources

- **Agricultural Market Research Data (AMRD)** – proprietary pesticide usage data from 1998 to 2015 for historical use trend and 2011 to 2015 for current usage estimates. These data are collected and sold by a private market research firm. The data are collected by annual surveys of agricultural users in the continental United States and provides pesticide usage data for about 60 crops, including both specialty and row crops. The survey design targets at least 80 percent of US acreage/production of the surveyed commodities. Survey methodology provides statistically valid results, typically at the state level.
- **United States Department of Agriculture's National Agricultural Statistics Service (NASS)** – publicly available pesticide usage data from 2011 to 2015. NASS data are based on surveys that focus on the top-producing states that together account for the majority of U.S. acres or production of the surveyed commodity. NASS survey design targets a minimum of 80 percent of the acreage/production for every fruit, vegetable, and field crop surveyed. Operation level data are

combined during summary and, pending compliance with disclosure rules, published at the state and national levels. NASS does not collect data annually for each crop, but surveys for various commodities on a rotating schedule.

- **California Department of Pesticide Regulation (CADPR) Pesticide Use Reporting (PUR)** – publicly available pesticide usage data for 2011 to 2015. The PUR database contains detailed records and summaries of agricultural applications of pesticides on crops based on application permits. All agricultural growers must submit their production agricultural pesticide use reports monthly and pest control businesses must submit pesticide use reports within 7 days after their application. As such, CADPR data is a census of all usage rather than a survey and is published annually.
- **Non-Agricultural Market Research Data (NMRD)** - Proprietary data source that provides market data for agrochemicals/specialty pesticides for various market sectors, including professional turf and ornamental plants, professional pest control, consumer pesticides, and vegetation management. Market reports reflect usage by class/market segment and chemical and are based on sales information (manufacturer and retail) and end-user surveys. Study dates vary by market sector.

The presented usage data are averaged over the number of years of available survey data based on sampling frequency (five years for AMRD and CADPR, and 1-2 years for NASS and NMRD), regardless of whether usage is observed in each surveyed year. The presented data may thus underestimate the maximum yearly usage. In certain cases, data are unavailable or withheld. These cases are specified in the tables as follows:

- Some data sources do not provide all data elements. When a data element is not available this is indicated with a “--” notation in the relevant column.
- In some cases, not enough samples are available to establish a robust average. This is indicated with the notation “Insufficient number of reports to establish an estimate” or “(S)”. Generally, this indicates that the chemical is only periodically used by a small number of users.
- If a registered use site is surveyed by one of our data sources but no usage is observed, this is indicated with the notation “Surveyed but no usage reported” across the data columns. Lack of reported usage data for the pesticide on a surveyed crop indicates that there is a very low likelihood that the given pesticide is used on that crop.
- If a registered use site is not surveyed nationally by any of our data sources, this is indicated with the notation “Not Surveyed at National Level” across the data columns.

## **Summary**

Nationally, among surveyed crops, agricultural chlorpyrifos usage has shown an overall decreasing trend in pounds applied since at least 2000. In contrast acres treated has increased slightly during that time period. Since 2008, however, both pounds applied and acres treated have been declining. Total agricultural acres treated with chlorpyrifos has decreased by 31%, and annual pounds applied agriculturally has decreased 42% since the 2008 peak. (Figure 1). During the most recent five years of available survey data (2011 - 2015), over 5.8 million pounds of chlorpyrifos were applied to nearly 9.5 million acres of agricultural crops annually (Table 1), in 40 states (Table 2). Approximately 50% of pounds of chlorpyrifos applied agriculturally are made to four crops (soybeans, alfalfa, wheat, and field corn). In terms of total acres treated, approximately 75% of the acres treated with chlorpyrifos are planted with the same three crops (soybeans, alfalfa, wheat, and field corn). The remaining 4 chlorpyrifos applications are spread over 30 other crops. Further information on national usage of chlorpyrifos by crop is available in Table 1. While the vast majority of chlorpyrifos is only applied to a handful of crops, examination of the percent of individual crops grown by state that are treated with chlorpyrifos indicates that it is an important pest control tool for certain crops in certain states. For instance, an average of 93% of onions in New

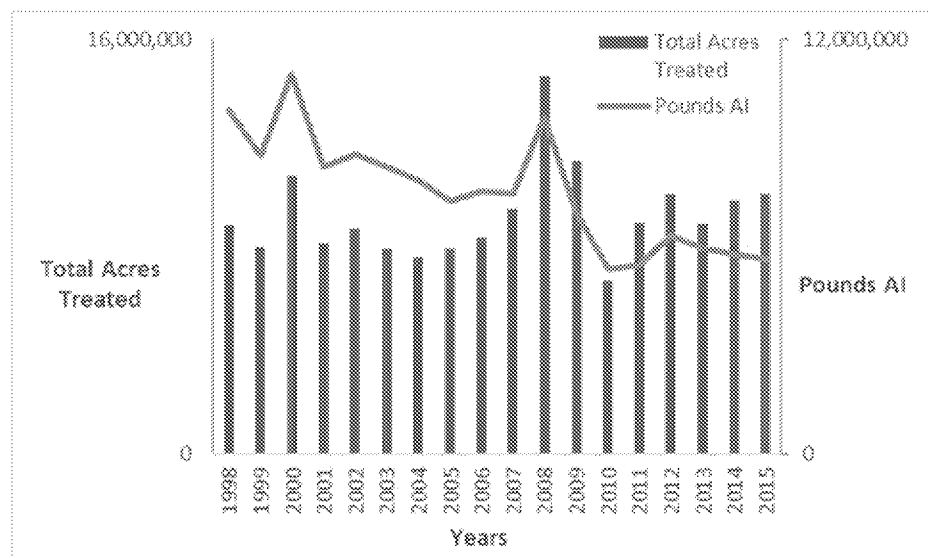
York, 93% of sugar beets in California, and 84% of peaches in South Carolina were treated with chlorpyrifos annually. Some crops display high average percent crop treated across states. For instance, over half of apple growing acres in many states (Virginia, Pennsylvania, Michigan, North Carolina, New York, West Virginia, and Washington) are treated with chlorpyrifos. Further information on percent of crops treated with chlorpyrifos by state is available in Table 2.

National non-agricultural usage data is more limited than agricultural data. However, available survey data indicates that much less chlorpyrifos was applied annually in the non-agricultural market than the agricultural market. During the survey period, over 150 thousand pounds of chlorpyrifos were applied annually to approximately 1.2 million acres of non-agricultural sites including buildings, ornamentals, turf, and wide areas for mosquito control. While the vast majority (88%) of the recorded acres treated with chlorpyrifos were for mosquito control, this sector only accounts for only 7% of pound applied, due to the low application rate of 0.01 lb/acre. Applications rates to ornamentals and turf are much more in line with agricultural use rates. Further information on non-agricultural sites treated with chlorpyrifos is available in (Table 3).

## Chlorpyrifos SIAB Use and Usage Matrix

Chlorpyrifos is an insecticide registered for use on the sites listed in the tables below. The following document presents a summary of the use and usage data that is available to the Agency on this active ingredient, during the years listed.

### Agricultural Usage



**Figure 1. Chlorpyrifos Total Acres Treated and Total Pounds A.I. Applied (1998-2015).**

*(Does not include crops surveyed only by NASS and CADPR, as indicated in Table 1)*

Source: Market Research Data (MRD). 1998-2015

**Table 1. National Chlorpyrifos Agricultural Usage and Use by Crop. Data Averaged Over Reported Years.**

Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
Root and Tuber Vegetables	See individual crops below						Full Crop Group Not Registered
Sugar Beets	AMRD (2011-2015)	CA, CO, ID, MI, MN, MT, NE, ND, WY	156,789	229,116	17%	0.684	2.0
Carrots (Grown for Seed)	AMRD (2011-2015)	Surveyed but no usage reported					0.9
Beets (Garden/Table)	Not Surveyed at National Level						1.9
Ginseng (Medical)	Not Surveyed at National Level						2.0 (MI and WI only)
Radish	Not Surveyed at National Level						3.0
Rutabaga	Not Surveyed at National Level						2.4
Sweet Potato	Not Surveyed at National Level						2.1
Turnips	Not Surveyed at National Level						2.3

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
Bulb Vegetables	See individual crops below						Full Crop Group Not Registered
Onions	AMRD (2011-2015)	CA, CO, GA, ID, NY, OR, TX, WA	53,732	57,562	0%	0.933	1.0
Cole Crops	See individual crops below						Full Crop Group Not Registered
Cole Crops (excluding Cauliflower and Brussels Sprouts)	See individual crops below						2.0
Cabbage	AMRD (2011-2015)	CA, CO, FL, GA, MI, NY, NC	6,913	6,455	0%	1.071	2.0
Broccoli*	CADPR (2011-2015)	CA	11,013	8,356	4%	1.318	2.0
Other Cole Crops	Not Surveyed at National Level						2.0
Brussels Sprouts*	CADPR (2011-2015)	CA	1,242	1,369	100%	0.907	2.3
Cauliflower*	CADPR (2011-2015)	CA	1,989	1,841	1%	1.081	2.3
Legume Vegetables	See individual crops below						2.2 (Soybeans) 1.0 (All Others)
Dry Beans/Peas	AMRD (2011-2015)	CA, ID, MI, MN, MT, ND, WA, WY	7,858	17,302	4%	0.454	1.0
Beans (Snap, Bush, Pole, String)	AMRD (2011-2015)	CA, FL, OR, TX	3,944	4,555	10%	0.866	1.0
Peas (Fresh/Green/Sweet)	AMRD (2011-2015)	OR	Insufficient number of reports to establish an estimate.				1.0
Soybeans	AMRD (2011-2015)	AL, GA, IL, IN, IO, KS, MI, MN, MO, NE, ND, OH, PA, SC, SD, WI	1,162,212	3,417,480	30%	0.340	2.2
Fruiting Vegetables	See individual crops below						Full Crop Group Not Registered
Peppers	AMRD (2011-2015)	AZ, FL, TX	Insufficient number of reports to establish an estimate.				1.0
Cucurbit Vegetables	See individual crops below						Full Crop Group Not Registered
Cucumbers	Not Surveyed at National Level						(seed only)
Pumpkins	Not Surveyed at National Level						(seed only)

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
<b>Fruit and Nut Trees (Bearing)</b>	<b>See individual crops below</b>						<b>Full Crop Group Not Registered</b> Rates or bearing trees (Non-bearing trees max rate = 4.0)
Almonds*	CADPR (2011-2015)	CA	283,176	153,764	25%	1.842	4.0
Apples	AMRD (2011-2015)	CA, MI, NY, NC, OH, OR, PA, VA, WA, WV	334,217	214,871	2%	1.555	2.0
Cherries	AMRD (2011-2015)	CA, MI, OR, WA	76,074	51,030	0%	1.491	4.0 (tart cherry) 2.5 (sweet cherry)
<b>Citrus</b>	<b>See individual crops below</b>						<b>6.0</b>
Grapefruit	AMRD (2011-2015)	FL, TX	77,072	34,790	2%	2.215	6.0
Lemons*	CADPR (2011-2015)	CA	28,773	9,262	0.03%	3.106	6.0
Oranges	AMRD (2011-2015)	CA, FL	413,761	195,226	10%	2.119	6.0
Tangelos	NASS (2011, 2015)	FL	800	--	--	1.459	6.0
Tangerines	NASS (2011, 2015)	CA, FL	22,800	--	--	1.298	6.0
Figs*	CADPR (2011-2015)	CA	Surveyed but no usage reported				2.0
Hazelnuts	AMRD (2011-2015)	OR	4,174	3,810	7%	1.095	2.0
Nectarines*	CADPR (2011-2015)	CA	2,200	1,492	100%	1.475	3.0
Peaches	AMRD (2011-2015)	AL, CA, GA, IL, MI, NJ, NY, PA, SC, TX	41,894	36,872	1%	1.136	3.0
Pears	AMRD (2011-2015)	WA, OR, WA	15,558	7,883	1%	1.974	2.0
Pecans	AMRD (2011-2015)	AL, GA, LA, NM, OK, TX	157,280	174,033	12%	0.904	4.3
Plums/Prunes*	CADPR (2011-2015)	CA	1,899	1,065	0%	1.784	2.5
Walnuts	AMRD (2011-2015)	CA	368,437	193,183	4%	1.907	4.0
Pineapple	Not Surveyed at National Level						2.0

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
<b>Berries and Small Fruit</b>	<b>See individual crops below</b>						<b>Full Crop Group Not Registered</b>
Grapes*	CADPR (2011-2015)	CA	92,862	51,445	0.02%	1.805	2.25 (east of the continental divide, CO, ID, and WA); 2.0 (CA)
Strawberries	AMRD (2011-2015)	CA, FL, MI, NY, OR, PA	7,544	7,452	0%	1.012	2.0
Cranberries	Not Surveyed at National Level						1.5
<b>Cereal Grains</b>	<b>See individual crops below</b>						<b>Full Crop Group Not Registered</b>
<b>Corn</b>	<b>See individual crops below</b>						<b>3.0</b>
Field Corn	AMRD (2011-2015)	CA, CO, GA, ID, IL, IN, IO, KS, KY, MI, MN, MO, NE, NM, NY, ND, OH, OK, PA, SD, TN, TX, VA, WI	594,211	789,680	24%	0.752	3.0
Sweet Corn	AMRD (2011-2015)	CA, FL, GA, IL, MI, MN, NJ, NY, OH, OR, PA, WA, WI	65,680	66,775	21%	0.984	3.0
Pop Corn	Not Surveyed at National Level						3.0
Sorghum (Milo)	AMRD (2011-2015)	AR, CO, GA, KS, LA, MO, NM, OK, SD, TX	44,777	102,278	46%	0.456	3.3
<b>Wheat</b>	<b>See individual crops below</b>						<b>4.0</b>
Wheat, Spring	AMRD (2011-2015)	AZ, CA, ID, MN, MT, ND, OR, SD, WA	330,468	960,882	16%	0.344	4.0
Wheat, Winter	AMRD (2011-2015)	CA, CO, IL, IN, KS, MO, MT, NM, NC, ND, OH, OK, OR, SD, TX, VA, WA	290,304	759,353	15%	0.382	4.0
Triticale	Not Surveyed at National Level						(seed only)
Grass Forage/Fodder/Hay	AMRD (2011-2015)	Surveyed but no usage reported					1.0

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
Non-Grass Animal Feeds	See individual crops below						Full Crop Group Not Registered
Alfalfa	AMRD (2011-2015)	AZ, CA, CO, ID, IL, IN, IO, KS, KY, MI, MN, MO, MT, NE, NV, NM, MO, NE, NV, NM, ND, OH, OK, OR, PA, SD, TX, UT, VA, WA, WI, WY	643,078	1,259,991	21%	0.510	1.0
Clover (Grown for Seed)	Not Surveyed at National Level						1.9
Oil Seed Group	See individual crops below						Full Crop Group Not Registered
Cotton	AMRD (2011-2015)	AL, AZ, CA, GA, KS, LA, TX	67,816	218,923	13%	0.310	1.0
Sunflowers	AMRD (2011-2015)	CO, KS, MN, NE, ND, SD, TX	67,352	194,760	64%	0.346	2.0
Stalk, Stem, and Leaf Petiole Vegetable Group	See individual crops below						Full Crop Group Not Registered
Asparagus	AMRD (2011-2015)	CA, MI, WA	18,194	20,881	15%	0.871	1.5

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Crop	Data Source	States with Reported Usage	Avg. Annual Pounds AI Applied <sup>a</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	% Applied by Air	Avg. Single AI Rate	Max Single Labeled Rate lb/a <sup>c</sup>
Misc Crops	See individual crops below						Full Crop Group Not Registered
Peanuts	AMRD (2011-2015)	AL, FL, GA, NC, SC, TX, VA	197,640	107,969	1%	1.831	4.0
Tobacco	AMRD (2011-2015)	GA, KY, NC, OH, PA, SC, TN, VA	46,334	38,969	0%	1.189	2.0
Mint (Peppermint and Spearmint)	Not Surveyed at National Level						2.0

Notes	
AMRD (YEAR-YEAR)	Agricultural usage surveyed by market research firm(s)
NASS (YEAR)	Surveyed by United States Department of Agriculture National Agricultural Statistics Service
CADPR (YEAR)	Surveyed by the California Department of Pesticide Regulation. Over than 80% of crop grown in California. California usage is considered to be representative of National usage for these crops.
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
b	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
c	Max labeled rate from APPENDIX 1-3. CYP Master Use Table

**Table 2. Chlorpyrifos Agricultural Usage and Use by Crop and State.**

Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Root and Tuber Vegetables	See Individual Crops Below						
Sugar Beets	AMRD (2011 - 2015)	California	24,800	26,688	72	100	93
		Colorado	5,860	(S)	0	2	0
		Idaho	174,800	76,191	18	79	53
		Michigan	152,200	4,915	1	9	5
		Minnesota	462,202	14,662	2	8	5
		Montana	9,300	(S)	0	1	0
		Nebraska	10,200	(S)	0	12	2
		North Dakota	224,198	33,839	8	26	17
Wyoming	6,260	(S)	0	8	2		
Beets (Garden/Table)	CADPR (2011-2015)	California (21%)	2,730	(S)	0	0.04	11
Carrots (Grown for Seed)	AMRD (2011 - 2015)	Surveyed but no usage reported					
Ginseng (Medical)	Not Surveyed at National Level						
Radish	CADPR (2011-2015)	California (13%)	1,926	1,098	1	4	2
Rutabaga	CADPR (2011-2015)	California (5%)	Surveyed but no usage reported				
Sweet Potato	CADPR (2011-2015)	California (15%)	18,189	2,141	6	15	9
Turnips	CADPR (2011-2015)	California (9%)	386	45	0.3	1	1
Bulb Vegetables	See Individual Crops Below						
Onions	AMRD (2011 - 2015)	California	45,140	8,340	11	28	20
		Colorado	2,800	(S)	0	45	10
		Georgia	12,660	7,169	31	94	64
		Idaho	8,360	4,331	4	84	49
		New York	8,900	8,638	81	100	93
		Oregon	19,660	11,850	16	81	62
		Texas	2,720	(S)	0	13	3
		Washington	23,880	12,221	30	80	50
Cole Crops	See Individual Crops Below						
Cole Crops (excluding Cauliflower and Brussels Sprouts)	See Individual Crops Below						
Broccoli*	CADPR (2011-2015)	California (81)	104,268	11,013	0.105	2	1

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Crop	Data Source	State	Avg. Annual Crop Acres Grown <sup>a</sup>	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cabbage	AMRD (2011 - 2015)	California	13,280	4,505	2	60	30
		Colorado	500	(S)	0	100	20
		Florida	3,960	(S)	0	9	2
		Georgia	1,080	(S)	0	7	1
		Michigan	1,920	1,119	0	85	37
		New York	6,080	132	0	3	1
		North Carolina	2,900	(S)	0	25	8
Gai Lon (Chinese Broccoli)	CADPR (2011-2015)	California (--%)	--	(S)	2	9	4
Napa Cabbage	CADPR (2011-2015)	California (--%)	--	240	0.3	1	0.5
Boy Choy	CADPR (2011-2015)	California (--%)	--	379	0.1	1	0.5
Collards	CADPR (2011-2015)	California (5%)	633	96	1	3	2
Kale	CADPR (2011-2015)	California (27%)	4,671	237	0.1	1	0.4
Kohlrabi	CADPR (2011-2015)	California (--%)	--	(S)	0	0.08	0.02
Mustard Greens	CADPR (2011-2015)	California (11%)	Surveyed but no usage reported				
Mizuna	CADPR (2011-2015)	California (--%)	Surveyed but no usage reported				
Other Cole Crops	Not Surveyed at National Level						
Brussels Sprouts*	CADPR (2011-2015)	California (96%)	7,299	1,242	1	12	4
Cauliflower*	CADPR (2011-2015)	California (82%)	34,369	1,989	0.001	1	1
Legume Vegetables	See Individual Crops Below						
Dry Beans/Peas	AMRD (2011 - 2015)	California	19,200	748	0	7	2
		Idaho	85,800	(S)	0	1	0
		Michigan	130,000	(S)	0	2	1
		Minnesota	57,000	(S)	0	1	0
		Montana	113,841	(S)	0	0	0
		North Dakota	659,797	2,895	0	2	1
		Washington	110,000	(S)	0	9	2
		Wyoming	6,600	(S)	0	23	5
Beans (Snap, Bush, Pole, String)	AMRD (2011 - 2015)	California	1,912	(S)	0	47	9
		Florida	9,356	(S)	0	5	1
		Oregon	13,163	2,348	15	26	20
		Texas	679	(S)	0	82	16
Peas (Fresh/Green/Sweet)	AMRD (2011 - 2015)	Oregon	7,020	(S)	0	4	1

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Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Soybeans	AMRD (2011 - 2015)	Alabama	84,000	(S)	0	1	0
		Georgia	108,000	4,843	0	20	6
		Illinois	7,400,003	56,500	0	4	2
		Indiana	5,350,001	142,570	1	9	5
		Iowa	9,660,008	169,391	3	9	6
		Kansas	2,229,999	3,589	0	1	0
		Michigan	1,590,000	23,946	0	7	2
		Minnesota	7,220,001	334,278	10	16	13
		Missouri	3,220,001	24,015	0	2	0
		Nebraska	5,049,999	58,397	1	7	3
		North Dakota	4,990,002	240,678	7	35	17
		Ohio	2,769,996	15,387	0	2	1
		Pennsylvania	106,000	(S)	0	3	1
		South Carolina	164,000	(S)	0	5	1
		South Dakota	4,669,999	64,154	1	11	5
		Wisconsin	1,414,001	21,446	0	16	4
Fruiting Vegetables		See Individual Crops Below					
Peppers	AMRD (2011 - 2015)	Arizona	280	(S)	0	45	9
		Florida	3,760	(S)	0	1	0
		Texas	720	(S)	0	5	1
Cucurbit Vegetables		See Individual Crops Below					
Cucumbers	AMRD (2011 - 2015)	California	1,941	(S)	0	0	0
		Florida	5,440	(S)	0	4	1
		South Carolina	800	(S)	0	64	13
		Texas	2,020	(S)	0	10	3
Pumpkins	AMRD (2011 - 2015)	Massachusetts	407	263	0	67	13
		Missouri	572	(S)	0	72	23
		New Mexico	806	(S)	0	76	15
		New York	3,660	(S)	0	4	1
		Oregon	406	(S)	0	11	2
		Pennsylvania	2,800	(S)	0	12	3
		Washington	394	(S)	0	28	6
		Wisconsin	2,534	(S)	0	4	2
Fruit and Nut Trees		See Individual Crops Below					
Almonds*	CADPR (2011-2015)	California (100%)	935,804	283,176	8	18	12

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Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Apples	AMRD (2011 - 2015)	California	18,303	5,032	3	41	15
		Michigan	43,282	39,109	66	81	73
		New York	48,366	50,631	52	84	71
		North Carolina	5,850	6,010	55	90	73
		Ohio	4,709	2,008	36	43	40
		Oregon	5,471	1,806	1	40	17
		Pennsylvania	23,416	29,666	64	88	75
		Virginia	12,827	15,507	60	92	80
		Washington	163,924	180,344	49	68	57
		West Virginia	3,723	4,102	0	89	62
Apricots	AMRD (2011 - 2015)	California	2,158	(S)	0	5	1
Cherries	AMRD (2011 - 2015)	California	29,805	1,700	0	7	3
		Michigan	45,911	20,846	24	60	39
		Oregon	17,037	16,804	33	67	47
		Washington	42,192	36,725	41	58	48
Citrus	<i>See Individual Crops Below</i>						
Grapefruit	AMRD (2011 - 2015)	Florida	52,411	53,878	32	61	44
		Texas	18,314	23,194	5	89	35
Lemons*	CADPR (2011-2015)	California (80%)	49,631	28,773	13	22	18
Oranges	AMRD (2011 - 2015)	California	191,650	183,378	17	36	26
		Florida	481,814	230,383	17	30	23
Tangelos	NASS (2011, 2015)	Florida	800	800	(D)	7	7
Tangerines	NASS (2011, 2015)	California	33,465	21,950	19	24	22
		Florida	8,122	850	5	6	6
Figs*	CADPR (2011-2015)	California (96%)	6,787	Surveyed but no usage reported			
Hazelnuts	AMRD (2011 - 2015)	Oregon	35,343	4,174	8	12	10
Nectarines*	CADPR (2011-2015)	California (87%)	19,555	2,200	2	8	6

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Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Peaches	AMRD (2011 - 2015)	Alabama	2,274	1,728	35	100	66
		California	52,541	3,288	2	5	3
		Georgia	10,485	7,234	0	63	34
		Illinois	720	419	0	70	23
		Michigan	4,146	1,007	4	30	11
		New Jersey	3,256	3,387	0	83	25
		New York	361	(S)	0	4	1
		Pennsylvania	5,025	1,676	2	50	22
		South Carolina	17,999	18,064	68	95	84
		Texas	5,062	2,465	6	60	32
		Washington	2,633	2,613	10	90	50
Pears	AMRD (2011 - 2015)	California	7,599	1,930	0	16	6
		Oregon	17,144	1,548	2	11	4
		Washington	22,993	12,079	14	37	24
Pecans	AMRD (2011 - 2015)	Alabama	10,815	5,046	0	33	13
		Georgia	117,902	68,312	27	46	39
		Louisiana	3,243	(S)	0	59	12
		New Mexico	40,079	13,944	7	55	26
		Oklahoma	126,728	4,867	2	6	4
		Texas	170,910	61,317	19	38	27
Plums*	CADPR (2011-2015)	California (94%)	21,616	1,142	1	3	4
Prunes*	CADPR (2011-2015)	California (94%)	61,295	757	0	2	1
Walnuts	AMRD (2011 - 2015)	California	314,967	368,437	32	47	42
Pineapple	Not Surveyed at National Level						
Berries and Small Fruit	See Individual Crops Below						
Grapes*	CADPR (2011-2015)	California (83%)	940,178	92,862	6	16	12
Strawberries	AMRD (2011 - 2015)	California	31,420	6,179	0	31	16
		Florida	3,560	(S)	0	7	2
		Michigan	660	282	0	49	23
		New York	1,200	253	0	29	15
		Oregon	2,100	699	9	29	22
		Pennsylvania	348	(S)	0	10	3
Cranberries	Not Surveyed at National Level						

(Continued on next page)

Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Cereal Grains	See Individual Crops Below						
Corn	See Individual Crops Below						
Field Corn	AMRD (2011 - 2015)	California	244,001	(S)	0	2	1
		Colorado	504,000	(S)	0	5	1
		Georgia	239,000	10,210	0	14	8
		Idaho	146,000	(S)	0	13	4
		Illinois	12,300,006	151,554	1	2	1
		Indiana	5,980,002	47,949	0	2	1
		Iowa	13,899,998	68,228	0	1	1
		Kansas	3,590,000	52,146	0	8	2
		Kentucky	1,198,000	4,496	0	1	0
		Michigan	2,599,999	39,532	0	3	1
		Minnesota	8,439,999	35,157	0	1	1
		Missouri	2,680,000	4,946	0	1	1
		Nebraska	9,740,001	34,208	0	1	0
		New Mexico	25,000	(S)	0	2	0
		New York	896,000	(S)	0	5	1
		North Dakota	779,998	(S)	0	0	0
		Ohio	3,710,002	29,542	0	1	1
		Oklahoma	140,000	(S)	0	12	3
		Pennsylvania	1,460,001	24,283	1	3	2
		South Dakota	2,079,999	(S)	0	3	1
		Tennessee	186,000	(S)	0	1	0
		Texas	480,000	(S)	0	0	0
		Virginia	396,000	8,216	0	3	2
		Wisconsin	4,199,999	33,323	1	1	1
Sweet Corn	AMRD (2011 - 2015)	California	32,680	8,814	9	34	21
		Florida	36,000	15,451	0	82	36
		Georgia	5,600	(S)	0	10	2
		Illinois	10,928	924	0	28	7
		Michigan	7,880	362	0	20	5
		Minnesota	124,180	1,365	1	3	1
		New Jersey	4,717	688	0	24	11
		New York	32,891	3,637	2	14	10
		Ohio	16,020	5,887	6	48	29
		Oregon	23,642	14,997	44	73	57
		Pennsylvania	14,731	6,366	20	52	35
		Washington	37,160	4,336	0	14	4
		Wisconsin	78,260	2,282	0	11	4
Pop Corn	Not Surveyed at National Level						

(Continued on next page)



Crop	Data Source	State	Avg. Annual Crop Acres Grown <sup>1</sup>	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sorghum (Milo)	AMRD (2011 - 2015)	Arkansas	100,000	(S)	0	7	1
		Colorado	128,999	(S)	0	0	0
		Georgia	27,000	(S)	0	17	5
		Kansas	2,850,001	6,387	0	1	0
		Louisiana	86,000	8,316	0	53	13
		Missouri	49,000	1,470	0	15	3
		New Mexico	25,000	(S)	0	1	0
		Oklahoma	148,001	4,195	0	6	2
		South Dakota	40,000	(S)	0	1	0
		Texas	2,509,996	20,504	1	3	2
Wheat	<i>See Individual Crops Below</i>						
Wheat, Spring	AMRD (2011 - 2015)	Arizona	14,000	(S)	0	3	1
		California	26,000	(S)	0	4	1
		Idaho	239,601	(S)	0	3	1
		Minnesota	1,414,001	27,926	1	9	5
		Montana	1,933,991	1,989	0	1	0
		North Dakota	6,948,004	263,161	7	14	12
		Oregon	20,000	(S)	0	2	1
		South Dakota	1,068,400	2,753	0	1	1
		Washington	124,000	(S)	0	0	0
Wheat, Winter	AMRD (2011 - 2015)	California	310,000	4,906	0	6	1
		Colorado	2,490,002	48,351	0	9	5
		Idaho	152,000	(S)	0	0	0
		Illinois	152,000	(S)	0	1	0
		Kansas	5,559,996	33,681	0	3	1
		Missouri	350,000	(S)	0	0	0
		Montana	460,001	(S)	0	2	0
		New Mexico	162,000	(S)	0	35	7
		North Carolina	166,000	(S)	0	0	0
		North Dakota	508,000	52,613	0	44	24
		Ohio	114,000	(S)	0	1	0
		Oklahoma	5,360,003	33,191	1	4	1
		Oregon	299,999	(S)	0	2	1
		South Dakota	330,000	(S)	0	1	0
		Texas	5,830,003	94,288	3	10	5
		Virginia	176,000	(S)	0	2	1
		Washington	332,000	(S)	0	0	0
Triticale	Not Surveyed at National Level						
Grass Forage/Fodder/Hay	AMRD (2011 - 2015)	Surveyed but no usage reported					

(Continued on next page)

Crop	Data Source	State	Avg. Annual Crop Acres Grown*	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Non-Grass Animal Feeds	See Individual Crops Below						
Alfalfa	AMRD (2011 - 2015)	Arizona	206,000	8,469	0	11	6
		California	718,000	89,673	0	50	20
		Colorado	742,001	29,470	5	13	8
		Idaho	1,056,001	37,446	3	11	6
		Illinois	130,000	(S)	0	3	1
		Indiana	56,000	(S)	0	10	2
		Iowa	756,000	5,507	0	2	1
		Kansas	640,000	127,225	28	40	35
		Kentucky	121,000	(S)	0	6	2
		Michigan	254,000	6,855	0	4	1
		Minnesota	1,016,000	16,845	1	5	3
		Missouri	250,000	18,479	1	21	11
		Montana	1,110,000	3,979	0	2	1
		Nebraska	468,000	14,119	0	10	3
		Nevada	251,000	11,179	1	17	9
		New Mexico	212,000	20,301	3	28	15
		North Dakota	1,198,000	33,152	0	8	4
		Ohio	264,000	2,633	0	7	2
		Oklahoma	259,999	100,502	40	67	54
		Oregon	310,000	9,832	0	12	5
		Pennsylvania	326,000	4,047	0	6	2
		South Dakota	2,010,001	6,199	0	3	1
		Texas	70,000	(S)	0	58	16
		Utah	537,999	30,228	10	16	13
		Virginia	14,000	(S)	0	2	0
		Washington	252,000	4,874	0	10	3
		Wisconsin	946,000	4,212	0	2	1
		Wyoming	520,000	27,944	4	17	9
Clover (Grown for Seed)	Not Surveyed at National Level						
Oil Seed Group	See Individual Crops Below						
Cotton	AMRD (2011 - 2015)	Alabama	71,000	(S)	0	2	1
		Arizona	124,000	1,861	0	4	2
		California	204,799	26,993	0	24	12
		Georgia	773,999	32,339	0	16	6
		Kansas	11,400	(S)	0	5	2
		Louisiana	93,001	(S)	0	1	0
		Texas	5,270,810	(S)	0	1	0

(Continued on next page)

Crop	Data Source	State	Avg. Annual Crop Acres Grown <sup>†</sup>	Avg. Annual Total Lbs. AI Applied	Min. Annual PCT	Max. Annual PCT	Avg. Annual PCT
Sunflowers	AMRD (2011 - 2015)	Colorado	83,900	2,449	2	30	11
		Kansas	86,800	16,933	17	54	32
		Minnesota	55,800	4,064	3	26	13
		Nebraska	27,200	(S)	0	16	5
		North Dakota	670,804	24,283	5	20	12
		South Dakota	525,597	13,909	0	8	4
		Texas	79,001	5,140	0	32	13
Stalk, Stem, and Leaf Petiole Vegetable Group	See Individual Crops Below						
Asparagus	AMRD (2011 - 2015)	California	11,760	10,444	34	89	65
		Michigan	10,260	7,152	53	72	63
		Washington	1,300	(S)	0	32	6
Misc Crops	See Individual Crops Below						
Peanuts	AMRD (2011 - 2015)	Alabama	69,000	(S)	0	11	3
		Florida	168,000	9,348	0	11	3
		Georgia	597,999	153,545	5	18	14
		North Carolina	90,200	17,777	6	20	11
		South Carolina	18,000	(S)	0	1	0
		Texas	81,400	3,788	0	9	2
		Virginia	18,000	3,926	2	24	11
Tobacco	AMRD (2011 - 2015)	Georgia	10,668	1,834	0	31	19
		Kentucky	86,552	1,653	0	3	2
		North Carolina	174,410	34,907	7	26	16
		Ohio	360	(S)	0	8	2
		Pennsylvania	7,574	4,223	0	79	33
		South Carolina	10,065	2,913	0	58	19
		Tennessee	5,479	(S)	0	2	0
		Virginia	20,085	653	0	6	3
Mint (Peppermint and Spearmint)	CADPR (2011-2015)	California (3%)	3,037	(S)	0	0.03	0.01

Notes	
AMRD (YEAR-YEAR)	Surveyed by MRD Data, and Year(s) of data included
NASS (YEAR)	Surveyed by NASS, and Year(s) of data included
CADPR (YEAR)	Surveyed by CADPR and Year(s) of data included. Percent of crop grown in California included under state. Crops with reported CADPR data, but less than 80% of crop grown in California, are grown in other states, but other survey data is unavailable.
*	California crop. Over than 80% of crop grown in California. California usage is considered to be representative of National usage for these
a	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
c	Max labeled rate from APPENDIX 1-3. CYP Master Use Table
(S)	Insufficient number of reports to establish an estimate. This indicates that the chemical is only periodically used by a small number of users.
†	CAG represents the total number of acres that are grown of the crop in each state. It is independent of treatment with any pesticide

## Non-Agricultural Usage

**Table 3. National Chlorpyrifos Non-Agricultural Usage and Use by Crop. Data Averaged Over Reported Years.**

Use Site/Geographic Area <sup>d</sup>	Data Source	Avg. Annual Pounds AI Applied <sup>a</sup>	% of market by weight <sup>c</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	Max Single Labeled Rate <sup>c</sup>
ALL Ornamental Lawns and Turf, Sod Farms (Turf)	NMRD (2012)	142,000	6.5% (6 <sup>th</sup> highest)	--	6.0 lb/a (woody shrubs/vines) 4.0 lb/a (nursery stock) 3.0 lb/a (herbaceous plants/ornamental trees) 0.007 lb/gal (non-flowering) 3.76 (turf)
Nursery/Greenhouse	NMRD (2012)	47,318	8.3% (2 <sup>nd</sup> highest)	6,860	6.0 lb/a (woody shrubs/vines) 4.0 lb/a (nursery stock) 3.0 lb/a (herbaceous plants/ornamental trees) 0.007 lb/gal (non-flowering)
Deep South	NMRD (2012)	8,000	--	13,150	(see above)
North Central	NMRD (2012)	13,000	--	14,930	(see above)
Northeast	NMRD (2012)	9,000	--	24,700	(see above)
South	NMRD (2012)	15,000	--	11,810	(see above)
West	NMRD (2012)	2,000	--	2,260	(see above)
Turf Farms	NMRD (2012)	70,144	58% (1 <sup>st</sup> highest)	63,700	3.76 lb/a
Deep South	NMRD (2012)	56,000	--	50,430	3.76 lb/a
South	NMRD (2012)	11,000	--	6,790	3.76 lb/a
West	NMRD (2012)	3,000	--	6,480	3.76 lb/a

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Use Site/Geographic Area <sup>d</sup>	Data Source	Avg. Annual Pounds AI Applied <sup>a</sup>	% of market by weight <sup>c</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	Max Single Labeled Rate <sup>c</sup>
<b>Golf Course Turf</b>	<b>NMRD (2012)</b>	<b>21,872</b>	<b>4.8% (5<sup>th</sup> highest)</b>	<b>24,160</b>	<b>3.76 lb/a</b>
Deep South	NMRD (2012)	6,000	--	3,800	3.76 lb/a
North Central	NMRD (2012)	3,000	--	3,150	3.76 lb/a
Northeast	NMRD (2012)	7,000	--	8,250	3.76 lb/a
South	NMRD (2012)	4,000	--	6,460	3.76 lb/a
West	NMRD (2012)	1,000	--	2,490	3.76 lb/a
<b>In Institutional Turf Facilities</b>	<b>NMRD (2012)</b>	<b>308</b>	<b>0.2%</b>	<b>620</b>	<b>3.76 lb/a</b>
West	NMRD (2012)	308	--	620	3.76 lb/a
<b>Applied to Turf by Landscape Contractors</b>	<b>NMRD (2012)</b>	<b>39</b>	<b>0.05%</b>	<b>40</b>	<b>3.76 lb/a</b>
Northeast	NMRD (2012)	39	--	40	3.76 lb/a
<b>Applied to Turf by Lawn Care Operators</b>	<b>NMRD (2012)</b>	<b>2,773</b>	<b>0.4%</b>	<b>2,140</b>	<b>3.76 lb/a</b>
South	NMRD (2012)	400	--	260	3.76 lb/a
West	NMRD (2012)	2,000	--	950	3.76 lb/a
<b>Wide Area Treatments</b>					
<b>Mosquito Control; Household/ Domestic Dwellings Outdoor Premises; Recreational Areas</b>	<b>NMRD (2015)</b>	<b>10,944</b>	<b>0.50%</b>	<b>1,103,408</b>	<b>0.01 lb/a</b>
North Central	NMRD (2015)	532	--	88,306	0.01 lb/a
South	NMRD (2015)	9,339	--	895,102	0.01 lb/a
West	NMRD (2015)	1,073	--	120,000	0.01 lb/a
Mosquito Control	NMRD (2012)	Surveyed but no usage reported			0.01 lb/a
Wide Area/ General Outdoor Treatment (for ants and other misc pests)	NMRD (2012)	Surveyed but no usage reported			0.5084 lb/100 gal

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Use Site/Geographic Area <sup>d</sup>	Data Source	Avg. Annual Pounds AI Applied <sup>a</sup>	% of market by weight <sup>e</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	Max Single Labeled Rate <sup>c</sup>
Buildings/Premises					
Commercial/Institution-AI/Industrial Premises/ Equip. (Indoor)	NMRD (2012)	Surveyed but no usage reported			0.4373 lb/100 sq ft, 190.5 lb/a (fire ants) 0.0625 lb/1,000 sq ft, 2.7 lb/a (general)
Commercial/Institutional /Industrial Premises/Equip. (Outdoor)	NMRD (2012)	Surveyed but no usage reported			0.1132 lb/1,000 sq ft, 4.9 lb/a
Nonagricultural Outdoor Buildings/Structures (non-residential)	NMRD (2012)	Surveyed but no usage reported			1.0 lb/a
Food Processing Plant Premises (Nonfood Contact)	NMRD (2014)	Surveyed but no usage reported			0.0424 lb/gal
Household/ Domestic Dwellings Indoor Premises	NMRD (2010, 2012)	Surveyed but no usage reported			0.0003 lb/bait station
Wood Protection Treatment to Buildings/ Products Outdoor	NMRD (2012)	Surveyed but no usage reported			16.65 lb/10,000 sq ft
Rights of Way/Utilities					
Rights of Way, Road Medians	NMRD (2011)	Surveyed but no usage reported			1.0 lb/a
Utilities	NMRD (2011)	Surveyed but no usage reported			0.44 lb/100 sq ft/ 1.0 lb/a
Sewer Manhole Covers and Walls	NMRD (2011)	Surveyed but no usage reported			0.31 lb/ manhole
Livestock Areas/Animals					
Agricultural Farm Premises (livestock housing and holding areas)	Not Surveyed at National Level				0.075 lb/1,000 sq ft, 1.2 lb/a
Poultry Litter	Not Surveyed at National Level				0.07126 a.i./1000 sq ft, 3.1 lb/a
Beef/Dairy Cattle	Not Surveyed at National Level				0.0066 lb/animal

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Use Site/Geographic Area <sup>d</sup>	Data Source	Avg. Annual Pounds AI Applied <sup>a</sup>	% of market by weight <sup>e</sup>	Avg. Annual Total Acres Treated <sup>b</sup>	Max Single Labeled Rate <sup>c</sup>
<b>Trees</b>					
Christmas Tree Plantations	NMRD (2011)	Surveyed but no usage reported			2.5 lb/a
Hybrid Cottonwood/ Poplar Plantations	NMRD (2011)	Surveyed but no usage reported			1.9 lb/a
Forest Plantings (Reforestation Programs) (Tree Farms, Tree Plantations, etc)	NMRD (2011)	Surveyed but no usage reported			1.0 lb/a
Conifers and Deciduous Trees; Plantation, Nursery	NMRD (2011)	Surveyed but no usage reported			1.0 lb/a
Forest Trees (Softwoods, Conifers)	NMRD (2011)	Surveyed but no usage reported			[3.6 lb/a] 2.4 lb a.i./100 gal

<b>Notes</b>	
NMRD (YEAR)	Nonagricultural usage surveyed by market research firms.
<b>a</b>	The pounds AI displayed in this document may differ from those displayed in the SLUA and other BEAD documents, because different calculation methods were used.
<b>b</b>	Total Acres Treated accounts for multiple applications to a single area. This may overestimate the number of acres treated as some acres are treated more than once.
<b>c</b>	Max labeled rate from 2017 EFED 1-3 Master Use Table.
<b>d</b>	Geographic regions based on U.S. Census Bureau regions. Northeast (ME, NH, VT, MA, CT, RI, NJ, NY, PA) North Central (ND, MN, WI, MI, OH, IN, IL, IA, ND, NE, SD, MO) West (WA, OR, CA, ID, NV, MT, WY, UT, CO, AZ, NM) South (OK, AR, TN, KY, WV, MD, DE, VA, NC) Deep South (TX, LA, MS, AL, GA, SC, FL)
<b>e</b>	Where available, market rank is provided in addition to percent of market by weight.

Prepared by Claire Paisley-Jones, 26 April 2018.

Message

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**From:** Suarez, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9BDB9158F4B245F8969069AC019D4F13-MARK E SUAREZ]  
**Sent:** 7/3/2019 1:32:35 AM  
**To:** Nesci, Kimberly [Nesci.Kimberly@epa.gov]  
**CC:** Anderson, Neil [Anderson.Neil@epa.gov]  
**Subject:** RE: Draft note to Rick - sounds OK?  
**Attachments:** NFMS Data Request.docx

My suggestions are attached - I used track changes.

---

**From:** Nesci, Kimberly  
**Sent:** Tuesday, July 02, 2019 4:11 PM  
**To:** Suarez, Mark <Suarez.Mark@epa.gov>  
**Cc:** Anderson, Neil <Anderson.Neil@epa.gov>  
**Subject:** Draft note to Rick - sounds OK?

**Questions for you in red, some edits of your original language/additions in blue. OK?**

Subject: NMFS Request for Usage Data {is there a more descriptive shorthand way to describe this?} for bromoxynil and prometryn.

Rick, Wynne, and Brian,  
(cc Mark, Marietta, anyone else? Claire?)

## Ex. 5 Deliberative Process (DP)



# Ex. 5 Deliberative Process (DP)

use the data and a request that, if NMFS discusses these data publicly, we are given the opportunity to review materials prior to release (Heads up; this should go in the transmittal to NMFS. Can we reasonably do early next week, if Rick doesn't say no?). If you disagree and think we should not share the data, given the team concerns, please let me know asap so that we can discuss messaging.

Thank you, I really appreciate you taking the time on this and any feedback you may have.

Best,  
Kimberly

Kimberly Nesci, Acting Director  
Biological and Economic Analysis Division (BEAD)  
Office of Pesticide Programs  
Office of Chemical Safety and Pollution Prevention  
703-308-8059

Message

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**From:** Suarez, Mark [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9BDB9158F4B245F8969069AC019D4F13-MARK E SUAREZ]  
**Sent:** 5/13/2019 11:02:35 AM  
**To:** Anderson, Brian [Anderson.Brian@epa.gov]  
**Subject:** Re: ESA deliverables from BEAD

Brian,

You can run all of the ESA usage inquiries through me, unless and until SIAB or BEAD IO management determines otherwise.

Thank you for verifying our deadlines on these. To my knowledge, we expect to meet these dates. If anything should change, we will let you all know, but I don't expect that to happen.

Regards,  
Mark

Sent from my iPhone

On May 10, 2019, at 3:51 PM, Anderson, Brian <[Anderson.Brian@epa.gov](mailto:Anderson.Brian@epa.gov)> wrote:

Hi Mark,

I think you are the right person to check with since Diann went on detail, but I just want to make sure that you are aware of the deliverables that the EPA usage team are working on, which includes some important ones from BEAD. We are scheduled to get the BEs out in December of this year, and getting these items on time is important, so I just want to make sure you guys are aware and supportive and to make sure that we are all aware of any potential issues. I think you have been part of the meetings and conversations, I just wanted to double check.

The main deliverables are below:  
May 31<sup>st</sup>.

**Deliverable 1.** Forestry – PCT table by Forest Service Region (Claire)

**Deliverable 2.** Rangeland – Updated PCT by state (Claire)

**June 15<sup>th</sup>**

**Deliverable 3.** Determination regarding the utility of the available usage data that we found for methomyl in HI, and utility of the sales data for HI.

Please let me know if you have any questions or want to talk

Thanks Mark

Brian